Community Arts and Appropriate Internet Technology:

Participation, Materiality, and the Ethics of Sustainability in the Digitally Networked Era

Pip Shea

Bachelor of Design (Hons.) University of Technology, Sydney

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Abstract

This thesis establishes appropriate internet[1] technology as a matter of sustainability for the community arts field. It begins with a contextual review that historicises community art in relation to technological, cultural, and political change. It goes on to identify key challenges for the field resulting from the emerging socio-cultural significance of the internet and digital media technologies. A conceptual review of the literature positions these issues in relation to Internet Studies, integrating key concepts from Software Studies and the computational turn with approaches from the fields of ICT for Development (ICT4D), Critical Design, and Critical Making. Grounded in these intersecting literatures the thesis offers a new pragmatic ethics of *appropriate internet technology:* one involving an alternative philosophical platform from which suitable internet-based technologies can be designed and assembled by practitioners. I interrogate these ideas through an in-depth investigation of CuriousWorks, an Australian community arts organisation, focusing on their current internet practices. The thesis then reflects on some experimental interventions I designed as part of the study for the purpose of provoking shifts in the field of community arts. The research findings form the foundation of a series of recommendations offered to practitioners and policy makers that may guide their critical and creative uses of internet technologies in the future.

[1] The decision not to capitalise the word "internet" in this thesis is based on the consideration that digital networks that use the internet protocol suite, TCP/IP, have become ubiquitous means of sending and receiving communications.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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Previously Published Work

Portions of this thesis contain updated and revised versions of material previously published as follows:

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[2] I have only reproduced my own contributions in this thesis.

Shea, P. (2013). The Community Art of "Reprogramming" Networks. In *International Association for Media and Communications Research (IAMCR)*. Dublin, Ireland.

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1. Introduction

1.1 Context

This thesis situates Australian community arts policy, literature, and practice alongside current digital media theory to develop sightlines for new conceptions of sustainable community arts practice. It investigates how the roles, identities, and practices of community artists are changing in relation to the internet and in particular, how the idea of *appropriate technology* can be productive in reconfiguring ideas of sustainability. The thesis builds from the premise that internet technologies are increasingly of central concern for community arts projects, either through direct use or through the internet becoming an increasingly dominant cultural paradigm. There is a range of data that can be drawn on to produce understandings about the social impact of internet technology in the field of community arts. In this thesis I choose to focus on issues I believe are under-studied: the politics associated with network software and hardware, and how they affect claims about the sustainability of community arts projects.

The thesis is grounded in the hybrid social science and humanities field of Internet Studies and includes inputs from ICT for Development Studies (ICT4D) and Critical Design. Drawing on the material turn in Media Studies – where media technologies are considered "complex sociomaterial phenomena" (Gillespie et al. 2014) – the thesis suggests ongoing engagement with the materiality of the internet may expose the network's underpinning dynamics, revealing who and what is powering the protocols, interfaces, databases, and data

centres that facilitate networked experiences. Community artists might then more easily identify emerging logics and norms, and new paradigms of inclusion and exclusion, enabling more critical evaluations of technology and its context-specific appropriateness.

The Australian community arts field is a primarily government-funded sector that exists at the intersections of artistic practice, informal education, and community development. It is widely perceived as the state-funded nurturing of grassroots cultural practices: an avenue for social justice within governmental and institutional systems. Community artists can be described as creative practitioners whose interest in nurturing creative expression among communities is, for many, motivated by a desire to redistribute power to the less empowered sections of society. Their practices support *creative learning*, a term that is used in different global contexts for a range of processes aimed at making learning more creative (Sefton-Green et al. 2011). In the case of community arts, creative learning techniques are employed to affect the economic and social development of individuals and community groups.

Sustainability is a discourse the Australian community arts sector appropriated from Development Studies in the 1980s (Hawkins 1992). Community arts projects have traditionally been considered sustainable when skills and tools are 'left' in the community to encourage ongoing creative production; an idea encapsulated by Fry's term "sustain-ability" (2009). Sustainability is linked to the community arts ethical aspiration of cultural democracy: a status quo where cultural authorship is distributed across societal hierarchies to contest hegemonic

cultural power. Methods to develop appropriate digital technology to date include the use of consumer-grade hardware and open source software, and the promotion of Creative Commons licensed images, audio, and video.

Historical markers suggest that the Australian community arts field has always undergone transformations to its practices and policies in line with broader technological and societal shifts. The internet – the global network of digital networks that has become entrenched as a major communications paradigm – is widely considered to be one of the sociotechnical actors currently reconfiguring many aspects of society. This perspective has been well argued by scholars (Benkler 2006; Castells 2000), and suggests that contemporary politics, economics, and social systems are now heavily reliant on organisational practices that draw on network structures and functions. Furthermore, it has been proposed that society is experiencing a shift from a reliance on machine-like metaphors towards the dominance of network metaphors, implying a "connexionist worldview" (Von Busch and Palmas 2006, 67) – for example, the use of the word "reconfigure" in the place of "reconstruct".

Critical community arts practice has yet to explicitly focus its attention on the internet. Practitioners and policy makers have not promoted the idea that developing critical capacities around network use and participation is a consideration for the community arts field. This can be thought of as developing agency as a network participant, which involves building the capacity to be self-reflexive, to iteratively develop ones own personal ethics around network participation. This critical position is relevant for the community arts field, as the

level of agency people have as network participants affects their ability to contribute to networked culture in a sustained way. I therefore situate critical network practices as a matter of sustainability for community arts, and propose an ethics of appropriate internet technology to guide associated praxis.

The idea of appropriate technology is associated with development practices and environmental politics and stems from the work of German economist, E.F. Schumacher (Howe 1979). It is premised on the idea that problem solving with technology is context-specific and that decision-making processes regarding the appropriateness of technologies should be decentralised and localised (Schumacher 1973). Alan R. Drengson's philosophies of appropriate technology extend the work of Schumacher and offer useful theoretical handles for this thesis (1982a, 1982b, 1986, 1995). Drengson's work on the idea of appropriate technology aims to clarify how we conceptualise technology, how we understand its limits, and how we identify and pursue alternatives that fit the "total value context" (1982b): a "mature" stage of technological design and development that respects the "reciprocal relationships between technology, person, and world" (1982a). His philosophy of appropriate technology also recognises four activities as "fundamental forms of innovation":

1. Technological modification;
2. Technological hybridisation;
3. Technological mutation; and,
4. Technological mastery and creation.

Drengson stresses that theses activities help build our capacity to "transcend" our dependence on technology (1982a), enabling more holistic approaches to the design of appropriate technology.

The empirical basis for my findings combine a detailed review of the Australian community arts field, a survey of global socially engaged practices, and an investigation of the arts organisation, CuriousWorks. The review of the field is offered in the form of a literature and policy review, as community arts practices have been somewhat dictated by local, state, and federal Australian governments. Examples of international socially engaged practices were drawn on to illustrate how the material qualities of networked technologies are being worked with and understood by others. CuriousWorks was chosen as an exploratory site to facilitate an investigation of the opportunities afforded by internet technologies, and to reveal the challenges associated with networked participation and communication in the community arts context. CuriousWorks should not be considered representative of the community arts field in Australia, but the company's unique experimental approaches means it has productive, explanatory power that will help determine the challenges and opportunities associated with digitally networked materials.

I also created two design experiments as part of my investigation. My interventions were free, downloadable PDF booklets that positioned critical internet practices as a new ethical consideration for community arts practitioners. These experiments extended my inquiry allowing me to investigate a particular problematic: how community arts practitioners engage with philosophies of software and networks. The value of this exploratory empirical work was theoretical and translational as it offered new insights in to how practitioners engage with philosophical approaches to acting with technology.

My initial research proposal hypothesised that community artists would be well placed to instigate community wireless networks (CWN). I devised this project to align with the community arts philosophy of sustainability where skills and tools should be 'left' in the community. My initial rationale was based on the idea that if a community artist was working with a community who didn't have access to the internet, that the project should consider making a community run wifi network. The emphasis of this proposal was on reconfiguring information communication technology (ICT) infrastructure projects into creative projects. My inquiry concluded that community arts projects were, in many cases, inappropriate contexts for nurturing CWNs. Empirical evidence supported the position that successful grassroots communications infrastructure projects needed an established member of the community as a central figure providing momentum for the project (Jungnickel 2009; Powell 2008) – a level of agency that can not always be expected from the target cohort of community arts projects. This initial research trajectory helped me refocus my study as an inquiry about what constituted *appropriate* digitally networked technologies.

1.2 Background to the Study

Australian community arts practice has always trodden a precarious path as it combines opposition to cultural hegemony with a desire to be embraced by the art world and funded by the state. The initial incarnation of the sector was based on imported British models that evolved from radical activist perspectives. As the Australian field developed it was perceived by practitioners to be less oppositional than its international counterpart (Hawkins 1992). Its formative years as an administrative funding category meant its programs were influenced

by government rationales (Hawkins 1992). Kelly (1984) describes this shift to government funded community arts programs as a migration from the cultural end of the activism spectrum to the cultural end of the welfare spectrum. Community arts practice in Australia has since become an umbrella category for activities ranging from grassroots folk festivals and participatory theatre to Digital Storytelling (DST).

Digital arts practices began to gain traction in Australian community arts projects circa 2000, as evidenced by the launch of the first iteration of the Feral Arts PlaceStories website (Spurgeon 2013). The increased involvement of artists with media production, web design, and software programming skills was influenced, in part, by government funding opportunities stipulating new media production techniques be used in community arts projects (*Australia Council for the Arts Annual Report* 2005-06). The appearance of community arts practitioners with digital media skills, along with the increased ubiquity of digital media production equipment in schools, libraries, and community centres gave rise to new community arts practices and creative outputs (Priest 2006).

Until quite recently, digital creative production was considered innovative community arts and cultural development practice (Community Partnerships Opinion Piece 2011). Perceptions within the field are now more likely to involve the idea that digital technology such as mobile internet and social media are transforming practices in a way that plays to the sector's advantage (Eltham 2012). This emergent enthusiasm sees practitioners developing digital literacies

and competencies through practical use as opposed to formal education (Hartley 2009).

1.3 Significance of the Study

The thesis presents an argument and builds a case for a new pragmatic ethics of appropriate internet technology. This involves the offer of new considerations for the field of community arts based on identifying the ways in which practitioners are engaging with and challenged by the materiality of internet technologies. This new ethical framework challenges the established community arts philosophy of sustainability – one that is primarily concerned with the politics of participation – claiming it does not serve the field well when introduced in to digitally networked contexts facilitated by the internet. My claims of originality and significance are connected to the lack of existing research that considers how the internet is changing the paradigm of sustainability in community arts practice, specifically in relation to appropriate technology.

My argument builds from the idea that fundamental differences exist between networked communication and participation paradigms, and the dynamics traditionally faced by practitioners visiting a geographically bound community to run a project. This position is supported by Gordon's (2008) *Theory of Network Locality,* where he suggests that location continues to matter in the context of networked culture, but that the "conditions under which local knowledge is produced are changing" (Gordon 2008). On challenging established community arts notions of sustainability, I highlight the need for the field to develop new articulations of sustainable practice. Theorising appropriate internet technology

within this thesis provides one such construction, establishing my major contribution to knowledge. This alternative articulation of sustainable practice has a "reformist rather than a revolutionary agenda" (Jenkins, Ford and Green 2013, 5) offering pragmatic guidance through what is emerging as a transformational phase for the field.

The current internet practices of the community arts field might be described as "feral" (Shea 2013). The word feral aims to capture the excitement of current practices, and the potential of future practices; but also implies that some taming of current practices is necessary, where taming describes the cultivation of critical internet practices. The thesis responds to this scenario and hypothesises that the internet practices of community artists would benefit from increased awareness of the structures and dynamics of digital networks, to help them determine how cultural practices are being shaped. This reveals a need for new methods to be developed to facilitate praxis: the notion that theory is in a dynamic relationship with practice (McNiff and Whitehead 2009).

The imperative for community artists to gain awareness of the underlying structures of the internet is grounded in scholarly debates surrounding the relationship between human agency and the agency inherent in network technology: the hardware and software facilitating network activity (Latour 2005; Manovich 2008). At the centre of these scholarly debates are the articulations and assemblages of network power. This incorporates the idea that technologies are active mediators, not intermediaries (Latour 2005): that technologies are actors (Slack and Wise 2005, 118). Castells (2009, 45)

describes four distinct forms of network power as follows:

1. Networking power, when power is exercised by excluding actors from the network;
2. Network power, the forces of co-coordinated networks, exercising power by imposing rules of inclusion and standards;
3. Networked power, the power relationships defined by different networks via their programmed goals; and,
4. Network-making power, the ability to form, program, reprogram, and facilitate networks.

Castells suggests this fourth form, network-making, is the "most crucial" form of power, because it creates a position from which actors can exercise control over others (2009, 45). It is philosophies of technology such as these that make visible the relationships between digital communications networks and power, and it is these power dynamics that may become a concern of community artists.

Theorising appropriate internet technology also involves an argument for the field's ongoing relationship with Development Studies, specifically ICT for Development (ICT4D). The work of Kleine (2013) is of particular interest as she makes important connections between the "capabilities approach" (Nussbaum 2011; Sen 1999), and ICT4D, through the introduction of the "choice framework" (Kleine 2013).

Critical Design is also introduced as a design research methodology to help community artists challenge biases and preconceptions they have regarding the technology they use. By questioning their own assumptions through critical

engagement with technology, they may also reconcile their creative aspirations with different social, economic, and technological contexts. The method of "speculative design" (Dunne and Raby 2001) is offered so practitioners become aware that their use of certain systems is an inherent promotion of that system. By assuming the identity of critical designer, the community artist is in a better position to make robust assessments of appropriate internet technology.

My theorisation of appropriate internet technology is an overarching ethical aspiration; a proposal for community artists to improve the way they assemble network software and hardware. It also provides the foundation for my *Appropriate Internet Technology Primer*, a collection of six activities that support community artists in their pursuit of appropriate internet technologies:

1. **Tinkering**: becoming familiar with the material aspects of the internet;
2. **Identifying Affordances**: surveying internet possibilities and politics;
3. **Speculative Design**: developing working and non-working prototypes;
4. **Assessing Capabilities**: evaluating the visible and hidden capabilities of networked individuals, and the requirements for ongoing mentoring;
5. **Agile Assembly**: resisting technological constraints through modification, adaptation, or detachment; and,
6. **Social Learning**: co-creating future notions of appropriate internet technology.

I created this pragmatic primer in the hope that it will be of use to practitioners and policy makers beyond the Australian context. My research identified the activities in the primer as key processes to encourage experimental and iterative

processes that prioritise *context specificity*, an ethical imperative of community arts practice. The collection of six activities offers points of departure for future academic studies of philosophies of sustainability and internet technologies. The challenge for further research in this area will be to map the reception, take up and use of these principles.

1.4 Approach and Methodology

1.4.1 Research Question

Positing that there is a link between sustainability and appropriate technology, my investigation was guided by the following research question:

> What constitutes sustainable internet practices in the community arts field?

The following sub-questions also guided the research:

1. How can we understand and nurture appropriate internet practices?
2. What are the connections and tensions between innovative internet technology and appropriate technology?
3. How do internet practices contribute to sustainable community arts projects?

These research question were explored through a survey of the field, a case study of CuriousWorks, and design interventions that aimed to investigate:

1. The current local and global context of the community arts field;
2. The internet practices of CuriousWorks;

3. The ways in which design communication artefacts might translate ideas about the internet and sustainable practices.

1.4.2 Overview

This thesis is grounded in Internet Studies, a field that draws on humanities and social science approaches to focus on the social and cultural implications of the internet. It has been considered a transformative field in that it provides a framework for research to emerge as a result of interdisciplinary scholarship concerning this global network of networks (Dutton 2013). Objects of study have been loosely categorised by the *Oxford Handbook of Internet Studies* as: the design and development of internet-related technology; the use and non-use of internet-related technology; and, laws and policies that shape internet use and emerging institutions (Dutton 2013). The thesis draws on Software Studies as a sub-field of digital media studies, as well as Critical Design methods, and ICT4D studies. The design, implementation, and analysis of the study are also informed by my identity as a practitioner in the field of community arts and my experience as a visual designer.

It is primarily a theoretical inquiry that takes a three-tiered methodological approach. The initial substantive component of empirical work involves a survey of the Australian community arts field – focusing on the government policies that have shaped the field thus far – establishing a premise for the study. An investigation in to the Australian arts organisation CuriousWorks consolidates the initial premise by gleaning understandings of the challenges and opportunities afforded by internet technologies. The design and dissemination of

two electronic booklets – that emerged through critical design research methodologies – are then discussed as outcomes of iterative action research cycles. These artefacts were deployed with the explicit agenda to improve research participants' understandings of their own practices (Kemmis and McTaggart 1988) and to foster critical internet practices within the broader community arts field.

Three phases of participant observation created good opportunities for an in-depth survey of CuriousWorks' internet practices. During this time, data associated with their project models, ethical aspirations, operations, and organisational discourses was gathered. Data gathering was iterative and responsive to emergent activities and tools. As a participant observer I engaged with CuriousWorks practitioners in a diverse range of situations in order to acquire a holistic perspective on their activities. I used a research framework that enabled data collection to occur in informal settings, whereby any interaction or conversation was considered data (Tacchi, Hearn and Slater 2003, 52).

Blumer's (1969) "sensitizing concepts" contributed to a general sense of the themes guiding the study, and to reveal my preconditioned "sense-making" (Goodall 2008). Thematic analysis of the data using Grounded Theory approaches resulted in a web of key interrelated concepts that informed new understandings of critical internet practices, which in turn have the potential to inform policy debates and the direction of the field. I adopted Glaser's (1978) position where he stresses that everything the researcher experiences during a study is considered data, and used coding practices outlined by Charmaz (2006)

to guide my observations of CuriousWorks and the wider community arts field.

I have positioned my ethnographic account as a collection of stories that are open to interpretation (Marcus and Clifford 1986). These stories were collected over multiple sites – different physical spaces and digital networks – indicating there were several scenes of encounter requiring the consideration of different norms and ethics (Marcus 2007). The design artefacts that emerged from my field work also responded to the call from Marcus for ethnographers to "develop their ideas within fieldwork" (2007).

1.4.3 Survey of the Field

A survey of the community arts field comprises a substantive component of empirical evidence for this thesis. Such an investigation is required to reveal the legacies that underpin contemporary practice and to situate the field in the context of the globally connected internet. Through combining a historical survey with an investigation of emergent, creative, and organisational practices currently affecting the field, I establish the premise for a review of the ethical framework that currently guides Australian community arts.

My historical map of the Australian sector reveals much about how community arts practices and policies have been influenced over the years. Changes occurring within the field have tended to follow on from broader social and technological shifts. These included rebranding exercises, the widening of definitions of community arts practice, and the addition of ethical responsibilities to situate the field as a cultural development initiative. With the emergence of

sustainability rhetoric, the idea of appropriate practices emerged. This reinforced the importance of practitioner reflexivity in nurturing cultural agency within communities, a mode of praxis that helped practitioners critically deal with the different needs and parameters of projects.

The survey of the field acknowledges that cultural participation has a long history, but offers traces of the modern history of the media arts field to create a path to current participatory paradigms of the internet era. A review of scholarly work suggests that new barriers arrive alongside these new modes of cultural participation, including the idea that human agency is a central capacity in the quest to become digitally and network literate. The issue of emergent sociotechnical cultural gatekeepers is also discussed to highlight the fact that community artists are now dealing with the politics of the internet. This is followed by a call for community artists to critically engage with the effects of the somewhat invisible structures and dynamics of networked communications, as a precursor to having the capacity to assess the appropriateness of internet technology.

The survey of the field also includes examples of contemporary socially engaged practices that share an affinity with community arts. The purpose of which is to illustrate how the internet is being considered a part of practice rather than an enabler of practice. Underlying this new consideration is the idea that the internet has material qualities, which helps with the process of accepting emergence culture: the networked paradigms giving rise to self-organising systems that are disrupting entrenched institutional forms. From such reconfigured perceptions of

digital networks flow new organisational and creative practices that have much to offer the community arts sector.

1.4.4 Fieldwork

An investigation of the internet practices of the Australian organisation, CuriousWorks, provides a second primary body of empirical evidence for this research. CuriousWorks is situated in the community arts field, but extends further into education, training, and professional arts activities. CuriousWorks provided a suitable context for my investigation because their publicly visible internet practices displayed interesting and experimental uses of digital networks. CuriousWorks opened up a range of research sites where practitioners were playing in the messy, unchartered waters of networked cultural production and communication. Data was collected during three phases of participant observation over a one-year period.

Traces of their blogging, media sharing, and online video practices were abundant; their online community All Around You was easy to access and observe; and, the offering of their online toolkit was unique in the Australian community arts context. Based on this diversity of digital practices and when compared to other Australian community artists and organisations, CuriousWorks could be described as the most digitally distributed. Their use of a variety of different open source and proprietary software platforms was also intriguing, and set them apart from other visibly networked community artists and organisations. CuriousWorks established a critical point of difference across their processes, which exemplified a new and emergent digital practice not

previously captured – this situated the organisation as an appropriate exploratory site for my study.

1.4.5 Experimental Interventions

Building on insights from the first two bodies of evidence, I drew on my knowledge of visual design processes to communicate the research findings to practitioners. Two booklets described initially as *critical guides,* then later as *field guides,* were created as a tactic to guide praxis. They were distributed via the internet using personal and professional social networks. The booklets offer guidance to practitioners through provocations and leading scenarios, to encourage the extension of individual creative practices beyond the life of community arts projects – to aspire to sustaining the abilities of project participants. This Critical Design approach aims to configure new models of practice that further inform theory by offering theoretical vectors and speculative examples to explore internet practices in the context of community arts.

The production of the booklets aligns with the community arts field's long tradition of making 'how to' style resources (*Australia Council for the Arts Annual Report* 1987-88, 20). The designs draw on the work of the advocacy organisation Tactical Technology Collective (TacticalTech). TacticalTech's underlying design principle is that effective visual design shapes understanding and clarifies meaning, through the adage "design adds seeing to reading" (Visualising Information for Advocacy: an introduction to information design 2008, 5).

1.4.6 The Researcher

I have driven the methodological processes underpinning this thesis and have been the main research instrument for the qualitative study. I recognise that I speak from a racial, cultural, gendered, socio-economic perspective (Denzin and Lincoln 1998). I am aware of certain biases I hold based on my self-identity and social values and have revealed the ways in which they impact the research. I have worked reflexively in order to understand the relativism of this social research: that knowledge, truth, and morality exist in relation to social, cultural and historical context, and are not absolute.

1.4.7 Ethics

A collaborative agreement with CuriousWorks was drafted on beginning my fieldwork to manage the expectations of all the project stakeholders (see Appendix 6, p330). This agreement outlined the nature of research activities, the perceived outcomes, and the terms of use of research findings. I was cognisant of the value I brought to my project partner, and was careful to articulate the difference between consultancy and research roles upfront. I tried to absorb my research cohorts' language and reflect this back in the language I have used to describe the research.

My research involved human participants, so at all times I considered their rights and interests, including issues surrounding consent, representation, integrity, authorisation, intellectual property, and data security. The concept of precise data is not appropriate for such a qualitative research inquiry as the analysis will

always be open to interpretation. I maintained records and an audit trail of my data-gathering processes to ensure that the replication of methods was controlled.

Where possible I have provided verification of data and the theory underpinning analysis of data. I have avoided drawing conclusions based on causality and have been forthcoming about uncertainty in my research process and outcomes. Under no circumstances have I falsified data to achieve a desired research outcome. I have taken care in situating general claims in the context of them being generalisations, leaving them open to contestation.

1.4.8 Methodological Limitations

My conception of the field of community arts and its associated practices is grounded in my own experience of being a practitioner in Australia between 2003 and 2008. Inevitably I approached my study with preconceived definitions and understandings of what it meant to practice community arts. This had positive effects – as I was already aware of the important ethical parameters of working in the community arts context – and disadvantages – as my familiarity with the field in practice led to some unproductive projections about incorporating emergent internet practices into the philosophy of sustainability. I must also acknowledge the limitations inherent in my approach to only focus on CuriousWorks as an exploratory site. There is little doubt that a more expansive study of Australian and international practices would have led to richer understandings of networked norms and logics and how they map to my theoretical framing of appropriate internet technology.

1.5 Thesis Overview

Chapter Two grounds the study in the historical context of the Australian community arts and cultural development field. It maps broad societal and technological changes to shifting community arts policies and practices, to establish the following premise for the study: the internet and mobile communications are contributing to a major reconfiguration of the field. From this foundation the chapter reviews the philosophical and ethical underpinnings of the sector, illustrating how many of the legacy ethics associated with Australian community arts were originally appropriated from Development Studies. It discusses the aspiration of community artists to contribute to a cultural democracy, by nurturing the creative agency of those considered disempowered or disenfranchised, through the implementation of appropriate activities. It describes the importance of the appropriateness frame in relation to technology, setting up the central tenet of the thesis: that a review of what constitutes appropriate technology is needed in light of emergent internet technologies. The chapter then discusses the effects of digital participatory culture on the field, before situating community arts among an *ad hoc*, distributed array of organisations and individuals working towards similar philosophical goals.

Chapter Three introduces several theoretical vectors from Software Studies, ICT4D, and Design Studies, to argue for a particular approach to designing appropriate internet technologies in the context of community arts practice. The theories outline critical, pragmatic approaches to the assessment and assembly of internet technologies, to encourage informed action – praxis – on the part of the

community arts practitioner. The chapter proposes a theoretical basis for the consideration of the material properties of digital communications networks, such as software and the wireless spectrum, while reconnecting community arts with Development Studies theories that are emerging in ICT4D Studies. Critical Design is offered as a methodology, to situate community artists as designers who are engaging in the critical assembly of internet technologies.

Chapter Four provides empirical evidence of new methods and practices emerging within the Australian field. This investigation of CuriousWorks establishes the company's operational context, its ethical framework and pragmatist approaches to technology. The chapter includes an analysis of CuriousWorks' status as innovators, hypothesising that this reputation is attached to the company's agile and pragmatic approach to assembling technologies.

Chapter Five offers a thematic categorisation of CuriousWorks' internet practices, as an exercise in developing more nuanced understandings of their approaches to appropriate internet practices. The company's practices are identified as developing online communities, networked publishing, making digital telematic art, practicing knowledge brokering, and creating internal digital infrastructure, which reinforce the idea that they are engaging with the material qualities of the internet. An investigation of the company's plans for future internet practices is also offered to garner understandings of how the organisation devises and future proofs its aims and objectives.

Chapter Six describes the processes and practices associated with the release of two experimental interventions designed to inform project and policy development processes. It discusses the rationale for these experiments – two free electronic booklets – and outlines the content that populates their pages. The chapter also illustrates the methods used to disseminate the digital artefacts and offers an analysis of the dissemination and evaluation process. Unintended audiences of the booklets offered unexpected data for the study, which lead to suggestions for the transferability of the digital artefacts: specifically as a prelude to additional, supported, professional development, and learning.

Chapter Seven concludes the thesis with an *Appropriate Internet Technology Primer,* a set of activities to guide community artists in their pursuit of appropriate internet technologies. It combines the theoretical framework outlined in Chapter Three with evidence of actual practices in the field to develop this new articulation of sustainability in community arts. The chapter also identifies some problems with current policies governing community arts practice, despite the hive of activity and activism surrounding the "convergent media policy moment" (Flew 2012). It then discusses recommendations to tweak policy settings based on findings revealed in the thesis. Chapter Seven concludes with a forecast of ideas pertaining to further research that builds on – or reconfigures – the offerings of this thesis.

2. Community Arts in the Digitally Networked Era

2.1 Introduction

The rationales associated with community arts and cultural development policy and practice in Australia have periodically been questioned and subsequently built upon since the field became a funding category of the Australia Council for the Arts in the early 1970s. These changes have occurred alongside significant moments of transition in the broader cultural and technological landscape. These turning points include the influence of mass media on the formation of culture, shifting government policy, multiculturalism, the proliferation of personal computers and low-cost media production hardware, and the ubiquity of the internet and mobile devices. These moments have contributed to reconfigurations of the field exemplified by multiple name changes, policy shifts and the introduction of new practices.

Even though the field has endured multiple periods of transition, the consistent objective of community arts has been to use grassroots creative learning and arts production to nurture the cultural agency of individuals and communities. The aspiration to decentralise cultural authorship in this way has been articulated as *cultural democracy* (Hawkins 1992; Roberts 1985; Hecks 1985; Horne 1988). Although much of the work of community artists and policy makers builds from this foundation, rhetoric surrounding cultural diversity, identity, empowerment, capacity building, health, and wellbeing has also dominated discussions about the purpose of community arts. These differences of opinion reveal a "continuing conflict between pragmatists and theorists" (Roberts 1985, 548), while

illustrating how such friction has been productive, in that the field continues to be relevant today. By discussing the challenges and opportunities that are presented to community arts by the digitally networked era, I aim to contribute to the ongoing debates around the philosophies and practices of the field.

The community arts philosophy contested in this chapter is *sustainability*, an objective appropriated from Development Studies theory in the 1980s (Hawkins 1992, 82). I assert that this idea is in need of both a pragmatic and theoretical overhaul due to its concern with the politics of participation in cultural production. Sustainability in community arts encompasses the idea that power dynamics are inextricably linked to cultural production, and that community artists must be concerned with the emancipation of individuals through building their capacities to make ongoing contributions to culture – to represent themselves in cultural artefacts and activities. But if we consider that the current developmental phase of community arts is digital participatory culture, then a reassessment of the politics of cultural production is imperative. Emergent parameters of cultural participation result in a need to reconceptualise sustainability as a productive philosophy for the field.

This chapter offers a contextual review that establishes grounds for an updated theoretical and conceptual framework for sustainable practice. It offers a policy and literature review of the community arts field in Australia, linking earlier developmental phases of the sector to sociotechnical shifts that have taken place more broadly within Australia. I track historical moments that have affected policy and practice before making the argument that the internet and digital

culture are the current forces at work on the field. My substantive claim that community arts in Australia has been heavily shaped by policy, warrants a description based on governmental responses to sociotechnical change.

A discussion of the field's ethical frameworks then helps to establish my position that ethical considerations are shifting due to the bedding down of digital participatory culture. Participatory paradigms are changing conceptions of, and the practices associated with community arts, as the potential for disenfranchised people to participate as producers, and promoters, of culture has increased exponentially with the rise of social media networks. Participation as a mode of interaction in the field of media arts is offered as a historical marker of participatory culture, before I establish that digital networks bring with them new barriers to participation. This gives a foundation to the view that the community arts aspiration of nurturing cultural agency must be reconfigured under the lens of digital participatory culture.

I also agitate for new approaches to understanding the affordances – the visible, perceived, and hidden possibilities of objects or systems (Gibson 1977; Gaver 1991) – of participatory networks; before flagging the importance of identifying associated ideologies and power dynamics, namely the politics associated with networked software and hardware and how they affect participation. The field of Australian community arts is also situated among a broader, globally connected movement interested in distributed cultural authorship. By drawing ideas and energy from the practices and priorities of these socially engaged practitioners, I

aim to inform discourse around community arts' networked futures.

The chapter illustrates that issues of power and digital networks are now entangled with participation in cultural production, and that the field's incumbent construction of sustainability – based on a geographically-configured notion of community and limited access to the tools of culture-making – does not adequately take these structures and dynamics in to account. By pointing to international socially engaged practices, we can develop points of departure for dealing with the challenges and opportunities afforded by emergent, networked technologies. These provocations provide a premise for my argument that a new ethics of appropriate internet technology is imperative.

In 1984, Owen Kelly proposed that community artists must be vigilant in regard to the "hidden biases of technical processes" and that they should be prepared to change these processes and the art forms within which they are used; "to mutate them" until they are a more appropriate fit for the purposes of community arts (Kelly 1984, 106). This call supports the assertion that the community arts sector is in need of new ethical markers to define appropriate technology in the internet era, so that projects are deployed that have a lasting, positive effect on individuals and communities.

2.2 Community Arts in Australia

Community arts distinguishes itself from other Australian grassroots cultural projects – such as community media – in that it is concerned with building the capacities of individuals and communities so they may participate in cultural

production. Where community media provides platforms for participation in media production processes (Rennie 2006, 3), the objective of community arts is to empower individuals to produce creative work based on their own values and choices, an idea that promotes diverse expressions of culture (CCD Theory 2006). Australian community arts is also a field that exists as part of an international context, where philosophies and practices vary.

Community arts in Australia has traditionally been associated with naïve aesthetics. This legacy has tended to situate the outputs of socially engaged arts practices as "outsider art" (Hull 2012), the creative work of those who are not considered artists by the cultural establishment (Rhodes 2000). A term coined by art critic Roger Cardinal in 1972, the notion of outsider art is derived from Dubuffet's notion of *art brut*, the direct translation of which is "raw art". Another way to situate community arts outputs is as "vernacular creativity" (Burgess 2007), ordinary displays of creative production that relate to specific contexts and identities.

Community arts practice in Australia gained institutional attention after English practitioners emerged as a force for social change in the mid 1960s (Roberts 1985). Originally considered radical, community arts practices in England challenged the cultural establishment – and the social classes it propped up – by "stressing the social and political functioning of art" (Roberts 1985, 549). A taming of this overtly political position occurred in 1972 when the *Association of Community Artists* was formed to advocate for funding and resources from the Arts Council of England. Kelly (1984) described this moment as one where a

"naïve but energetic" activist movement "drifted in to the arms of those it sought to oppose" (1984, 140). Not long after this institutionalisation process began in England the referencing of 'community' began to appear in Australian arts policy (Roberts 1985). This coincided with wider cultural developments of the 1960s and 1970s, including progressive social policies introduced by the Whitlam Labor government (Hawkins 1992).

The practices associated with formalised community arts had already been happening in Australia focusing on arts interventions as "communalist therapy" (Hecks 1985, 553). On becoming an officially sanctioned artistic field community arts became the vehicle for a mandate to reframe art as an activity open to anyone, rejecting the notion that creative practice was for the pursuit of high art and the exclusive domain of the professional artist. As a field it began working towards reconfiguring arts policy to support the "decentralisation of the means of cultural production" (Roberts 1985, 551). It emphasised the movement away from the artist as expert, while remarking on a wider shift that was repositioning art as something for communities to produce rather than consume. From an early point the sector also championed an agenda to target communities in regional centres and remote areas (Bower 1976).

Hawkins (1992) described the period between 1972 and 1992 of the Australia Council's administering and funding of community arts as their *Community Arts Program*. This term allowed for the multiple titles and various rebranding and repositioning exercises that the Australia Council employed to construct community arts during this period. Within the Australia Council the field was

initially known as *Community Arts* (1972); it then became the *Community Cultural Development Unit* (1987); then the *Community Cultural Development Board* (1991); and is now represented by the office of *Community Partnerships*.

Although many artistic fields have been renamed and reconfigured by the Australia Council in its four major organisational reviews (1979, 1987, 1995 and 2004) the community arts program has seen the lion's share of contestations of its agenda and practices. This constant questioning has revealed concerns about the legitimacy of the field; which is unsurprising considering "much of the ideology which provided a basis for the growing movement (was) formulated and passed on by a handful of community artists and organisers active in the early days" (Hecks 1985, 553). Further, misconstructions of community arts can also be understood through Kelly's (1984) idea that the description of the field doesn't explain *what* is practiced, but rather the *reason for* practice.

By 1980 confusion surrounding definitions of community arts had waned. Evaluations of several of the sector's funding initiatives had been completed which had established a "distinctive set of cultural practices and organisations which prescribed community arts" (Hawkins 1992, 59). This period also saw a shift away from funding categories that targeted specific populations of people – such as those identified by the Community Arts Board's "ethnic arts" program – towards support for cultural organisations and workers (Hawkins 1992). This move aimed to "emphasise the relative merits of different methods for working 'in the community'" (Hawkins 1992, 59), but was in part prompted by the Community Arts Board's own admission that its support for "ethnic arts" was

problematic in that it created a "narrow cultural ghetto" for the creative expression of migrants (Hawkins 1992, 86).

This moment in the community arts field echoed wider cultural concerns about the need to foster multiculturalism in Australia. The Fraser Liberal government's commitment to celebrate the country's culturally diverse population is noted for its positive response to the 1978 Galbally Report. This document signaled a move away from integration policies towards guidelines and initiatives that supported cultural pluralism (Claydon 1981). The shift toward multiculturalism is also exemplified by the launch of the Special Broadcasting Service (SBS) television channel in 1980, whose remit was to provide multilingual and multicultural programming to reflect Australia's multicultural society (Ang et al. 2008).

Following an Australia Council organisational review in 1987 the *Community Arts* funding category became the *Community Cultural Development Unit* (CCDU). This change followed a Commonwealth Government decision to "elevate the status of community arts within the Council and provide a more effective integration with the art form boards" (*Australia Council for the Arts Annual Report* 1987-88, 20). Community arts practitioner Malcolm McKinnon saw this as a "theoretical and political repositioning intended to move beyond a 'soft' marginalised realm to a more central credible location within the larger cultural discourse" (McKinnon 1998, 7). This move toward philosophies and rhetoric from the community development sector remains a contentious association, as it is beset with baggage from its colonial roots (Smith 2012).

The repositioning of community arts as an approach to community development extended community arts philosophies to include championing the right and ability to affect one's own future (self-determination), and working to address socio-economic inequity (social justice) (CCD Theory 2006). Having articulated and positioned CCD in this way, the community arts sector began its important, ongoing, and somewhat ambiguous relationship with the practices and rhetoric of sustainability.

The move from community arts to CCD also saw community empowerment become the primary objective of funding (Hawkins 1992). It had the effect of elevating cultural issues to the agendas of non-cultural organisations such as unions, migrant organisations, health, and education institutions (*Australia Council for the Arts Annual Report* 1987-88, 20). It also led to what Hawkins describes as the "ultimate triumph of cultural development over community arts" (1992, 85) – the courting of local governments. This resulted in precedents being set for culture to be used as a resource in anything from "economic development to urban renewal" (Hawkins 1992, 85).

By the mid 1990s, the Australia Council's Community Cultural Development Fund continued to explicitly "assist communities to investigate and express their culture" through "locally determined, community-based arts activities" (*Australia Council for the Arts Annual Report* 1995-96). This coincided with a heightened period of opposition surrounding Australia's self-defined cultural identity. Moral panics surrounding cultural change were the feelings that

epitomised one side of this "culture war" (Davis 1999); progressive reformists advocating for cultural diversity and gender equality formed another (Bennett and Carter 2001, 18). The "imaginary fears" of Australia's cultural elites were contentiously revealed by scholar Mark Davis in his book *Gangland* (1999). Through exposing the cultural hegemony of the time, Davis revealed a deep-seated fear of cultural change that often materialised as attacks on youth culture:

> Young people are caught on the wrong side of an increasing gap between 'official' sanctioned culture and renegade culture. They seem to be drowning in a sea of sixties revivals, while their pleasures – be they dance parties or so called 'grunge' fiction – are denigrated, ghettoised or ignored. (Davis 1999, xii)

During this same period the proliferation of personal computers and the expansion of digital networks were signaling a significant communication paradigm shift that enabled new grassroots modes of production and distribution. The promises of networked globalisation were both championed and challenged by artists and activists who began using network technologies to resist the momentum of oppressive capitalist practices. One such organisation was Catalyst, a Sydney-based media activist collective. Their website *Active Sydney* enabled activists and their supporters to share news, events and photos on the web. The site focused on events but was open to postings of any nature "from reconciliation to freeway fighting to Jabiluka protests to permaculture to supporting affordable childcare" (Meikle 2004, 77). Matthew Arnison, Gabrielle Kuiper, and Andrew Nicholson, the developers of the active Sydney platform, then worked with the Seattle Independent Media Coalition to build *Indymedia*: a

grassroots media resource to cover protests of a meeting of the World Trade Organisation. Many consider *Indymedia* to be the first open publishing system ever developed (Martin 2004; Rennie 2006).

The enabling of globally networked self-publishing also gave rise to the practice of Digital Storytelling (DST), a method of training first promoted by the San Francisco *Center for Digital Storytelling*[3] (CDS) in 1994 (Burgess 2007). DSTs are short films that combine a narrated piece of personal writing, still images, and a musical soundtrack, and are typically created in intensive workshop settings. The aim of the method is to nurture 'authentic' voices to develop personal narratives in the hope that those experiencing the stories are moved to reflect on their own experiences. The method of nurturing self-representational, "mediatized stories" was adopted more widely – spreading to England, Scandinavia, Australia and other "digitally saturated" parts of the world – after the British Broadcasting Corporation (BBC) rolled out its Capture Wales project in 2001 (Lundby 2008). The momentum behind DST can be aligned to a movement that began working to uphold people's right to communicate over the internet without interference (Dal Fiore 2007), exemplified by the work of Electronic Frontiers Australia (EFA) who began campaigning in the same year.

DST methods are somewhat institution dependent in that logistically, they require the provision of physical space for workshops, and ideologically, they promote top-down participation where an "expert" facilitates the distribution of knowledge (Hartley et al. 2008, 65). This sheds some light on why DST was

[3] Center for Digital Storytelling website http://www.storycenter.org

welcomed as a model for the community arts sector in Australia. Other reasons these methods slotted in well can be attributed to storytelling activities and video practices already being embedded in the Australian community arts field (Community Partnerships Opinion Piece 2011).

DST was a pioneering model with regard to the merging of creative learning and digital literacy capacity building (Hartley and McWilliam 2009). It can be linked with a policy trend in Australia that saw funding allocations targeting creative practitioners with digital skills to run community arts projects. This marked a wider movement that saw computer professionals begin applying their skills to social projects. Organisations such as the Seattle-based *Computer Professionals for Social Responsibility* helped to reframe computing as a *social practice* (Schuler and Agre 1997) through projects such as Free-nets[4]. Tom Grundner, the founder of the Cleveland Free-Net, consciously attempted to build upon other well-known civic models such as the U.S. public library system and public television broadcasting systems (Schuler 2010). The collaborations that occurred between artists, activists, and technologists at this time were reciprocal, both groups inspiring each other to move beyond the existing parameters of their respective fields (Jones 2011).

The move to enlist digital media practitioners as community artists was supported by a report carried in 2005 by the Youth Research Centre at the University of Melbourne. The report, titled *Young People, Wellbeing and*

[4] Free-nets were public computer systems that facilitated access to community information through text-based dialup.

Communication Technologies (2005), concluded that ICTs are "crucially and fundamentally implicated in each of the three determinants of mental health". This marked a time when health and wellbeing aspirations were attached to Australian community arts discourse and policy, and was made evident by increased funding support offered by the health sector. The pioneering work by VicHealth, the state of Victoria's health advocacy body, was most noticeable regarding the push to merge mental health, the arts and communications technologies (*A Plan for Action 2005–2007: Promoting Mental Health and Wellbeing* 2005).

Health and wellbeing rhetoric was used in tandem with the promises of new technologies as a strategy to engage young people in creative projects. One such program was *Emerging Producers in the Community* (EPIC), a grant offered by the Australia Council. In 2005/06, the program funded 9 Australian media artists to design and produce a community arts project in partnership with an established arts organisation. The initiative was a co-production between the Australia Council's Community Cultural Development Board (CCDB) and the New Media Arts Board (NMAB), and was in its second year of operation when the CCDB and NMAB were both dissolved as boards within the Australia Council.

As a practitioner working in the field at this time I witnessed the effects of the abolition of the Australia Council's CCDB. The move triggered widespread uncertainty among practitioners and once again questioned the status of the sector within the broader arts landscape. Anxiety about the future of funding

increased as state government agencies halted initiatives charged with supporting community arts practice. The Office of *Community Partnerships* (CP) was the administrative group that replaced the CCDB, and it remains the Australia Council's current port of call for Australian community arts practice. The formation of the Office of CP was based on recommendations made in *Creative Communities: the Community Partnerships Scoping Study* (Dunn 2006). Reoccurring themes in the scoping study included the need for all Australia Council art form boards to be active in the fostering of community arts and culture; and, the need for "whole-of-government" and "whole-of-community" responses to "developing long-term strategies and partnerships to deliver sustainable capacity building initiatives" (Dunn 2006, 10).

The year following the dismantling of the CCDB the Australia Council instigated its Key Producers funding initiative. Also known as KP-11, Key Producers refers to eleven community arts and cultural development organisations that received ongoing financial support from the Australia Council between 2007 and 2013. The organisations were: Arts Access Victoria, Barkly Regional Arts, Beyond Empathy, Contact Inc, DADAA Inc, Feral Arts, Footscray Community Arts Centre, Information and Cultural Exchange (ICE), Shopfront Contemporary Arts Centre, Somebody's Daughter Theatre, and Tutti Ensemble.

During this same period, emerging technologies such as Free and Open Source Software (FOSS) and cheap (media-making) mobile devices, enabled shifts in the way the community arts ethic of sustainability was considered. The practice

of leaving tools in the community so that creative work could be continued was now being thought about in terms of software and hardware. Creative production software could be 'left' on computers and mobile devices that were freely available to individuals in the community.

The promise of FOSS "emphasizes the right to learn and access knowledge" (Coleman 2013, 3). This ideology has created much excitement within the community arts sector, as evidenced by a partnership that occurred between Sydney's Campbelltown Arts Centre and d/Lux/MediaArts in 2007. These organisations facilitated an event that saw community arts practitioners and media artists come together to produce a program to build "socially-engaged cultural practices that provide frameworks to cooperatively build and share free media tools, content and visions of change" (da Rimini 2007, 10). The project drew on notions of peer production, open source and DIY culture, to project an atmosphere of opportunity for grassroots culture making, based on the affordances of the digital commons. This period of community arts practice coincided with the recognition of the creative value of software, a shift that led to the programming of computer code gaining prominence in media art discourse (Whitelaw 2004).

However it wasn't until 2009 that the Australia Council launched its *Arts in the Digital Era* initiative, a multi-year project that attempted to deal with the transformations affecting the arts sector as a result of digital technologies. The *Arts Content for the Digital Era* report that emerged from this initiative outlined a strategic vision in which it stated its mission was to "understand the big picture

of the digital environment" (*Arts Content for the Digital Era* 2009, 2). The report explored how digital infrastructure might affect audience engagement; how traditional art forms might extend their creative practices to include digital technologies; what new capabilities may be required to navigate emerging business models; and, how to preserve "heritage media" in the digital environment (*Arts Content for the Digital Era* 2009, 14).

A funding program that emerged from the Arts in the Digital Era initiative was *Geek In Residence*. The program is currently being offered for a second time due to the success of the inaugural initiative (Gchat Andrew Donovan 2011). Its aim is to help arts organisations who are already funded in a multi-year capacity to be "competitive in the digital era" (Geek In Residence 2012). Geeks are defined by the Australia Council to be "technology enthusiasts or experts" and are placed within the companies on a part-time basis over a twelve-month period. The host organisations are tasked with recruiting the "geek" in consultation with the Australia Council. Acting Chief Executive of the Australia Council, Libby Christie, publicised the initiative as a popular program that provided intensive professional development for artists and the participating organisations "in their own environment leaving a valuable legacy in terms of new organisational skills and digital capacity" (New Geeks In Residence for Arts Organisations 2012).

The current incarnation of the Australia Council's Community Partnerships office was devised to support the policies outlined in the Community Partnerships Scoping Study (Dunn 2006). This policy document stipulated that CP fund creative projects in the areas of youth, education, and regional

development (*Australia Council for the Arts Annual Report* 2005-06, 22). It stressed that focus remain on supporting community arts and cultural development as a practice and a process. The field's legacy of aligning with Development Studies and practice remains relevant today as the term Community Arts and Cultural Development (CACD) is used to frame the sector. CP's current priority areas cover a range of geographic, demographic, and social contexts, including: regional Australia, disability, young people, cultural diversity, emerging communities, Indigenous people, remote Indigenous communities, and other "specific critical social and cultural issues requiring focused attention" (Community Partnerships 2012).

The CP Committee's most recent publication stating "guiding principles" for community arts practice, positions its broad remit as supporting "excellence in artistic practice and cultural development practices that directly engage with the diversity of Australian communities" (*Guiding Principles for Community Partnerships* 2011). It offers three areas of deliberation the committee uses when assessing project proposals:

1. Whether the activity is by, with, and for the communities;
2. Whether the artists are highly skilled; and,
3. Whether activities reflect the energy and qualities of the community.

They specify that proposals should demonstrate that communities will be directly involved in the purpose, design, and evaluation of projects, that practitioners must work with communities in ways that are meaningful and relevant and that activities are inclusive, respectful, and based on the needs and aspirations of all stakeholders. They stress that projects should be managed in ways that include

communities at all stages and must aim to increase the capacities and skills of communities, applying techniques that support ongoing cultural production (*Guiding Principles for Community Partnerships* 2011).

Existing research within the Australian community arts field includes the University of Technology Sydney's investigation in to emerging media and creative practices developed through and around Information and Cultural Exchange (ICE) in Western Sydney. Lines of inquiry for research include explorations of the way ICE is used as a creation space; the mapping of ICE among mainstream cultural organisations in Western Sydney; analysis of community responses to ICE project outcomes; and identification of the ways in which policies inform the development and sustainability of projects (Vanni and Mowbray 2008). Scholarly publications emerging from this project include Tanja Dreher's (2012) paper, *A Partial Promise of Voice: Digital Storytelling and the Limit of Listening.*

The Queensland University of Technologies ARC Linkage project *Digital Storytelling and Co-creative Media: the Role of Community Arts and Media in Propagating and Coordinating Population-wide Creative Practice* is also in progress at the time of writing. The project aims to "demonstrate how to remove institutional impediments to the population-wide propagation of creative participation in Australian arts, media and culture" (Spurgeon 2011), through scholarly publications (Vivienne and Burgess 2012; Rennie and Potts 2012) and events such as *Co-creative Communities,* a future-oriented public forum and lab targeted at co-creative community media practitioners. It is a linkage grant that

brings together the Australian Research Council, the Australia Council for the Arts, Swinburne University of Technology, the Australian Centre for the Moving Image, Goolarri Media Enterprises, Queensland Community Television, and Community Broadcasting Association of Australia.

My thesis compliments these research projects as it also seeks to understand more about the effects of emergent media and communications infrastructure and paradigms on the community arts field. However my contribution differs in that it pulls focus on how these technologies are reconfiguring philosophies of sustainability and appropriate technology.

2.3 The Ethics of Community Arts

The ethical frameworks that underpin community arts practice in Australia have evolved incrementally via the ongoing interplay of practice, theory, and policy. The ethics of the sector stems from rhetoric espousing cultural diversity and cultural rights, aspirations that are sometimes conveyed by the term cultural democracy (Hawkins 1992). In this section, I offer connections between the field's macro aspiration of cultural democracy, and its more micro objective of nurturing cultural agency within communities. I explore the notion of appropriate practices and describe my interpretation of the role of praxis in this equation. I then offer a profile of the community arts practitioner and how I consider their role in facilitating participation. My unpacking of the ethical frameworks that influence community arts reveals the structures and functions of socially engaged arts, situating practices on a sliding scale of "subsidized artistic

activism" where projects deliver varied doses of controlled cultural subversion (De Bruyne and Gielen 2011, 7).

The idea of cultural democracy has consistently been at the centre of Australian community arts practice (Hecks 1985; Roberts 1985; Horne 1988; Hawkins 1992; Badham 2010). It has guided practitioners philosophically and has been used as a rhetorical sounding board during periods of self-evaluation. Writing in 1985 Hecks describes that "questions of cultural democracy were commonly reinterpreted into issues about bargaining for free cans of paint from corporate sponsors, and avoiding the pitfalls of murals being used in corporate advertising" (1985, 553). This suggests that definitions of cultural democracy have existed on a spectrum from meta-level philosophies of distributed cultural authorship to context specific scenarios affecting daily practices. A more contemporary construction describes a status quo that is achieved when multiple individuals and communities control the creation and trajectory of their own culture (Badham 2010). This aspiration for distributed cultural authorship sits in opposition to the "democratisation of culture" which is the popularisation of an already decided cultural agenda (Kelly 1984).

Many battles are now fought with ideas and symbols designed to promote particular ideologies (Trend 1997). The term cultural democracy is therefore used as an ideology to acknowledge that many cultures co-exist and that no single iteration should dominate. The idea champions the notion that diversity is a social asset and proposes that participation in cultural life triggers useful democratic interventions (Adams and Goldbard 1990). The pursuit of cultural

democracy sees community arts having a less polarising approach to other social transformation efforts as the virtues of incremental change are elevated above revolutionary change (De Bruyne and Gielen 2011).

Cultural democracy also encompasses the idea that individuals should be afforded certain rights regarding the formation and circulation of culture. In contemporary society cultural rights are increasingly being seen as a human rights issue. Considered integral to the notion of having the right to communicate, cultural rights can be thought of as policies that help individuals and societies form self-understanding (UNESCO 2004). The connection between cultural democracy and cultural rights gained momentum in Australian community arts between 1985 – 1991 when Donald Horne was chair of the Community Arts Program (*Australia Council for the Arts Annual Report* 1995-96). Horne's commitment to cultural democracy is evident in his reforms of arts policy (Hawkins 1992, 82), as shown by this extract from his paper *Arts Funding and Public Culture* (1988, 5):

> Just as citizens have political rights, economic rights, social rights and civil rights they can also be thought of as having cultural rights. These cultural rights, which are a legitimate concern of the state, consist of rights of access to our common cultural heritage and to use it as we wish, a right to new art and a right for citizens to participate in their own art making. It is by the assertion of rights such as these that we can offset the monopolistic claims of public culture (Horne 1988, 5).

Artists and culture makers from every artistic discipline and practice are represented in the community arts field. This diffuses the construction of community arts as an artistic genre, challenging its description as an art form (De Bruyne and Gielen 2011, 8). Although it has primarily been seen as a particular type of creative practice it is also a literacy movement existing in the liminal spaces between formal education and professional art making.

Practitioners have different literacy capacities that they bring to projects and each area of creative practice has different practical and ethical considerations. Educators grounded in dance practice who facilitate the making of a work for the stage have different ethical concerns than those grounded in media arts facilitating the production and distribution of digital videos. Regardless of their artistic discipline the role of a community arts practitioner is to nurture the expression and transmission of the ideas and values of project participants. When this process results in participants becoming agents of cultural production they can be thought of as having cultural agency. At the heart of human agency – the precursor to cultural agency – is the distinction between power and freedom (Freire 1972).

Human and cultural agency continue to be a central ethic of the community arts field as the current remit of the sector is to work with "some of the most disenfranchised members of our society" (*Community Partnerships Sector Plan 2010-2012* 2011). Disenfranchised people are those who are deprived of power[5], often due to socio-economic and political factors stemming from stratified

[5] Definition: New Oxford American Dictionary 2nd edition (2005).

constructs such as gender, sexuality, and race. A lack of human agency – or inability to instigate action – can then become a derivative of this deprivation of power. Community arts practitioners and policy makers target this group with the objective of nurturing human agency through creative learning processes – primarily art making. This course of action is based on the philosophy that acquiring human agency is reliant on cultural processes, and that human agency forms culture (Ratner 2000).

An important aspect of nurturing cultural agency in the community arts context is the idea of sustainability, or "sustain-ability": the maintenance of a "qualitative condition over time" (Fry 2009, 43). Sustainability has increasingly become a central organising principle in community arts projects and approaches are often led by the use of methods and resources that can continue to be used by participants after the completion of a project: after the practitioner has left the community. The term ultimately refers to an individual's (or community's) ability to remain a cultural agent over time, but the term is more often used to describe what types of tools and activities are the most appropriate in terms of hypothetically sustaining cultural agency.

Sustaining the cultural agency of community arts participants involves the application of appropriate approaches. By viewing the activities of community arts under the lens of appropriateness, practitioners may avoid using techniques that are unsuitable, unsustainable, or that might lead to cultural appropriation. My experiences as a practitioner revealed that appropriate approaches are achieved through praxis: a pragmatic approach to incorporating theory in to

practice. General rules and principles can be derived from theory but it is the outcomes that emerge via the application of these theories to the problems of practice that position praxis as an important aspect of understanding appropriateness in community arts.

Praxis is an ethical aspect of community arts because it provides a critical yet emergent model for projects that have a vast spectrum of needs. Praxis is appropriate as there can be "no prior knowledge of the right means by which we realise the end in a particular situation" (Smith 1999). "As we think about what we want to achieve, we alter the way we might achieve that. As we think about the way we might go about something, we change what we might aim at. There is a continual interplay between ends and means. In just the same way there is a continual interplay between thought and action" (Smith 1999). Praxis enables the specific needs of community art projects to be "evaluated in relation to its concrete environment and its potentially therapeutic, subversive, critical, aesthetic or political impact" (De Bruyne and Gielen 2011, 6).

An aspiration of community arts practice is to work to understand the objectives and perspectives of participants in the context of the communities in which they live. It is considered ethical practice to consult with community leaders and organisations over time to establish a baseline of understanding about individual and shared cultural values. Practitioners can avoid stereotyping through flagging their own preconceptions and assumptions and by learning to consider sub-groups associated with community participants, such as gender, ethnicity, sexuality, and socio-economic status. As a media artist working in the

community arts context, my use of appropriate technology was of particular importance to the objective of sustaining cultural agency within communities.

Community artists teach and mentor to develop creativity. Practitioners might also be interested in the economic and social development of community groups, seeing community arts as an avenue for social justice within the system. Although somewhat derogatorily described by Kelly as “salaried rebels who are excitingly dangerous to watch but guaranteed not to bite” (Roberts 1985, 550) relativist community artists respond to the realities of widely different situations.

It is for this reason that modes of participation are a central tenet of community arts practice. Methods of participatory engagement, beyond the actual making of creative artefacts, can include asking participants to choose the subject matter for a project; offering participants control over the way subject matter is interpreted; getting participants to set logistical parameters such as the timing of a project; and, encouraging participants to evaluate the project. Different practitioners will encourage varied levels of participation, based on the specifics of a project and on their personal position regarding how much participation is a good amount.

Encouraging participation in cultural production sees community arts practitioners facilitating distributed cultural authorship. The implementation of appropriate methods by community artists reinforces their philosophical imperative of sustaining the cultural agency of those who they work with. The following section will situate community arts firmly in the age of digital

participatory culture in order to raise, and field, questions concerning current community arts praxis.

2.4 Cultural Participation and the Internet

The current developmental phase of community arts is digital participatory culture: the social life and dynamics of internet mediated grassroots cultural activities. Previous sociotechnical moments have affected the sector in significant ways but the range and depth of changes affecting global culture due to networked communications have the potential to completely reconfigure community arts practices and policies. The following section establishes the work of media artists as a precursor to digital participatory culture, before offering an overview of a distinctly contemporary shift, that of the mainstreaming of "vernacular creativity" (Burgess 2007) due to new modes of digital production, sharing, and constructions of community. The section also explores the dynamics of network inclusion to establish emergent barriers surrounding digital cultural participation.

The idea of cultural participation has varied during different time periods. In the mid-nineteenth century much of British scholar John Ruskin's work revolved around the primacy of human creativity and how emergent industrial creative practices were oppressive as they "suffocated" intelligence and had a negative impact on the collective (Gauntlett 2011, 29). William Morris built on Ruskin's work, emphasising the role of creativity in community contexts. Like Ruskin, Morris rejected industrial creative practices and offered counter-cultural alternatives through expanded conceptions of creative practices and their

relationship to place (Gauntlett 2011, 36). A more recent trajectory of what constitutes cultural participation can be found among the rhetoric and activities surrounding media arts practice.

The term *media arts* has been used to encompass forms of creative practice involving or referring to art that makes use of electronic equipment, computation, and digital communication technologies (Paul 2003). Early media artists were reacting to the rigid conventions of contemporary art, the performing arts, music, design, and industrial research (Quaranta 2010). Having strong connections with the Fluxus and conceptual art movements of the 1960s (Paul 2003), their work marked a movement away from objects and towards an emphasis on concept, event, and audience participation. Their practices can be linked to the formative years of the personal computer (PC) as the editing tasks PCs were designed to perform simulated old media such as writing, painting, and drawing.

Early visions of the PC involved an expandable media platform that enabled users to easily "add new properties as well as to invent new media" (Manovich 2008: 23) – in other words, a *metamedium*. Just as the architecture of the PC had an impact on artistic practices, so did early communications networks and the internet. Artists experimented with video and satellite networks in live performances and collaborative story-making using faxes, telephone lines, and computer networks. These examples of distributed authorship signaled an emerging new order of media art, that of interactivity (Ascott 2003, 237). *The Planetary Network* was one such project that experimented with remote

communication. It used fax technology to connect positions in England, Canada and Australia, commenting on "the reworking procedure of words and images transmitted in a sort of creative dialogue between sender and receiver" (Bazzichelli 2008, 96).

In 1989, British artist Roy Ascott suggested that "networking provides the metaphor for late-twentieth century culture: it speaks of interactivity, decentralization, the layering of ideas from a multiplicity of sources" (Ascott 2003, 222). Ascott is best known for coining the term "telematic art" to describe artworks that use telecommunications networks as their medium (Popper 1993). His view was that art resides in cultural communication systems rather than in the "art object as a fixed semantic configuration" and that networking "leads to the amplification of thought, enrichment of the imagination, both broader and deeper memory, and the extension of our human senses" (Ascott 2003, 233).

Ascott's visionary theories of art, technology, and human consciousness, provide an appropriate backdrop to contemporary digital participatory culture. During a time when the internet was still considered a skunkworks for computer science academics, Ascott wrote of networks and their implications for human growth and creativity. He positioned the human act of networking via computers as a response to "our deep psychological desire for transcendence – to reach the immaterial, the spiritual – the wish to be out of body, out of mind, to exceed the limitations of time and space"; and proclaimed that this immersion in electronic global networks can lead to a "re-evaluation of the status of reality; to an understanding of its provisional nature, as one of many co-existing realities, all

of which are constructed – virtual in a sense – and dependent upon our active participation for their construction" (Ascott 2003, 233).

These traces of participatory paradigms in media arts echo Jenkins' suggestion that "the emergence of participatory cultures of all kinds over the past several decades paved the way for the early embrace, quick adoption, and diverse use" of social media platforms such as YouTube (2009, 109). The term participatory cultures is now widely used to describe the ubiquity of online participation due to the proliferation of software services that promote the sharing of digital artefacts and communications. The promise of participatory cultures has been widely critiqued, with Carr's (2010) suggestion that prolonged online participation may affect our ability to read and think deeply, and Morozov's (2011) attempts to dispel rhetoric espousing the internet's democratising effects by offering the provocation that digital communications networks are aiding the entrenchment of established power. In the 2006 report, *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century,* Jenkins et al. also identify participation, transparency, and ethics as significant issues relating to the promises of participatory culture.

The idea of digital participatory culture is sometimes associated with earlier rhetoric surrounding "prosumers" (Toffler 1970) and more current discourses of "produsage" (Bruns 2008) and "peer production" (Benkler and Nissenbaum 2006). Information processes that are enabling these types of participatory culture making are now at the centre of the many organisational transformations taking place today (Castells et al. 1999, 37). The rate of efficiency at which

human networked interactions can take place has exponentially increased and this has spawned new forms of innovative skill sharing, knowledge transfer, and co-creation.

Alvin Toffler coined the term prosumer in *Future Shock* (1970), a book that explored the idea that electronic technologies would close the gap between producers and consumers. Toffler offered other predictions in Future Shock, such as a vision of "the coming Ad-hocracy", when bureaucracies – an organisational form that youth cultures of the late 1960s feared most – was "least likely to dominate tomorrow" (1970, 126). He proposed ad-hocracy as the organisational form of the future, defined by "kinetic organisations" that would be constantly changing (Toffler 1970, 120). The term *produsage*, coined by Bruns (2008), is a contemporary interpretation of the ideas Toffler was espousing in the early 1970s. It describes the optimal environment for networked co-creation being organisationally *ad hoc*. His concept speaks of governance not being formalised, giving rise to heterarchical structures that promote a more even distribution of power and authority across networks (2008).

At the heart of these networked interactions is the activity of sharing. The promise of new modes of internet-mediated sharing are explored in Benkler's essay *Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production* (2004). Benkler cites the world's fastest supercomputer – the distributed computing platform SETI@home – to illustrate how sharing can be a sustainable social convention. Emergent sharing paradigms are also peppered throughout Ito et al.'s (2010) influential *Hanging Out, Messing*

Around, and Geeking Out: Kids Living and Learning With New Media. Examples of collaborative creative production on MySpace (2010, 257), "friendship-driven" personal media sharing (2010, 253), and the inherent sharing practices of torrent downloads (2010, 69), sketch how acts of giving, revealing, and cooperation are crucial social operations in the network.

New modes of cultural participation afforded by digital networks raise questions for the field of community arts. Where does it begin to situate itself in a world where distributed cultural production is the new normal? Where once Dubuffet's celebration of raw art was shared by the few, today, the world is heaving with 'uncooked' culture. From the thousands of LOLcats to the millions of YouTube response videos, vernacular creativity is now ubiquitous. So how does a sector with a foundational aspiration of nurturing participation in cultural production justify its existence today? Where once the community arts sector attempted to counter the formation of cultural consciousness from television, radio and newspapers, to "retrieve the vernacular in the face of powerful and centralised forces" (Hecks 1985, 554), now community artists are nurturing creative expression among participants who are able to self-publish using digital platforms that are inexpensive or free and that have the potential to reach a global audience.

The emergence of 'online communities' around self-publishing platforms has created further grounds for contestation regarding the ways community arts is framed and practiced. The term suggests an upending of the idea of *community*, a historically contested and ambiguous term. So how does online community

compare with offline community? Are internet-based communities even possible? These questions start to reveal why the definitions of online community vary, and in some cases are condemned as a misnomer.

The idea of the virtual or online community was popularised by Rheingold (1993), but was first envisaged by Licklider and Taylor in their influential paper, *The Computer as Communication Device* (1968). Baym's extensive investigations of online communities stretch over twenty years, exploring folklore, fandom, and online social dynamics (1993, 1998, 1999, 2007). The work of Jenkins' also reveals the articulations and assemblages of fan communities, bloggers and gamers on the internet (2006a, 2006b, 2012). Lovink (2005b), Rossiter (2006) and Coleman et al. (2009) use the term "organized networks" instead of virtual community or online community to reveal the entanglements of online and offline collaborations. Dal Fiore (2007) separates "communities" and "networks" entirely, arguing that the former contributes to incremental change, and the latter are responsible for rapid change. Whereas Chun (2007) builds from Anderson's analysis of the nation as an 'imagined community', arguing that we are witnessing the emergence of imagined groupings and networks (2007, 5). Thomas and Seely Brown (2011) also reconsider the term "online communities" offering the alternative construction of the "collective" to describe how the internet is reconfiguring social interaction.

My conscious choice to use the term *online communities* in this thesis helps establish how people's sense of belonging reaches far beyond their geographical boundaries, and how constructions of community connectedness have changed

irreversibly as a result of the internet. My definition of online communities refers to the development and maintenance of both strong and weak ties around project, practice, or common interest. Strong ties refer to social connections between people in small, well-defined groups; weak ties are interpersonal networks that fall outside of small groups, and often straddle multiple groups (Granovetter 1973, 1983).

Effusive rhetoric surrounding participatory media paradigms such as YouTube, FaceBook and Twitter, espouse utopian visions of accessible, democratic platforms that support cultural diversity through grassroots creativity. But participatory media is breeding new gatekeepers and developing new barriers to cultural and creative expression which can be conceived as "new forms of inequality" (Flecha 1999, 65). The notion of participation being a somewhat expected modality also raises questions as to whether it has become more of a requirement than a choice: revealing a new kind of "tyranny" (Cooke and Kothari 2001).

The propagation of agents of digital culture has seen the dismantling of traditional avenues of cultural gatekeeping. This has mostly been a boon for community arts practice, a scenario that would have been difficult to predict in 1992 when Gay Hawkins posed the question, "Is community arts a cultural programme whose time has passed?" (1992). But what do we know about emergent manifestations of cultural control resulting from internet participation? How are they affecting the most disenfranchised members of society (the target cohort of community artists)? Is this cohort at risk of landing on the wrong side

of a new digital divide?

Scholarly debates concerned with notions of a digital divide have moved beyond a focus on access to the internet towards discussions of digital inclusion and social inclusion (Warschauer 2002; Notley 2008). The notion of digital fluency is also gaining momentum in scholarly discourses to describe the complex array of social and technical capabilities required to maintain agency in networked culture (Papacharissi and Easton 2012). Conceptualisations of this term include ideas such as critical information-seeking (Bartlett and Miller 2011) and knowing how to make "things of significance" with technology (Resnick 2002).

Issues surrounding access have been overshadowed partly due to what DiMaggio et al (2010, 28) call the "differentiation principle" – when products and services become available to a broad section of society the relatively privileged begin to create new systems that re-establish hierarchies. So as access to the internet increases the social momentum of differentiation has the potential to create new kinds of inequality (Dimaggio et al. 2010, 29). This study aligns itself with Papcharissi and Easton's (2012) conception of digital fluency. Their focus on human agency as a root issue more adequately deals with this idea that new manifestations of a digital divide are emerging caused by the manufacture of new systems of inclusion and exclusion. It assumes the position that socio-economic status is an important predictor of how young people are using the web (Hargittai 2010) and therefore explains digital fluency as "a product of class" (Papacharissi and Easton 2012, 20). This provides a solid rationale for community artists working to nurture creative agency with the disenfranchised

through the use of digital media and internet technologies.

Human agency is the "active element of culture" (Ratner 2000) – in this case, network culture – and the process of developing human agency gets complicated when we consider the agency inherent in nonhuman technological actors (Latour 2005). The culture-maker must now deal with the politics and gatekeepers of the network: interfaces, processes, software and hardware, and the ideologies of those who make them (Barzilai-Nahon 2008). Networked culture-makers should be aware of the flip side of asserting their creative agency through third-party software platforms, by understanding their role as both content providers and data providers (van Dijck 2009, 47); they should know they provide data through having their network behaviours tracked by algorithms; they should have an understanding that they are situated in the network as an Internet Protocol (IP) address and know how software platforms use this information; and, they should know there are implications associated with this type of surveillance.

Cultivating critical consciousness around network participation can be thought of as building "user agency" (van Dijck 2013, 18) through acquiring new literacy capacities. Establishing our own individual sense of appropriate technology use is something many digital network participants grapple with. The faith we place in digital networks to offer us, in the words of Ascott, "transcendence" from perceived physical constraints is sometimes misplaced, leaving us unsatisfied with our networked experiences. As we imagine we are experiencing a break from the constraints of the 'physical' world, we enter a new world of technological and design constraints.

The idea that technologies are a form of cultural gatekeeper has not been sufficiently dealt with by the community arts sector. Questions abound regarding how the structures and dynamics of internet technology influence our networked actions; how practitioners might develop more nuanced understandings of the interplay of human and non-human agency that turns network participation in to culture; and how emergent cultural gatekeepers might be identified so that cultural agency can be nurtured through the design of appropriate internet technology (see Figure 1). If the field were to move beyond its "marveling at the phenomenon of user-created content" (Banks 2012), toward investigations of the ways sociotechnical actors are shaping the norms and logics of internet participation – and therefore shaping culture – community artists would be in a better position to nurture cultural agency at the grassroots. The vulnerability of community artists is addressed in this idea, in that they would be in a better position to design, apply, and promote appropriate internet technology.

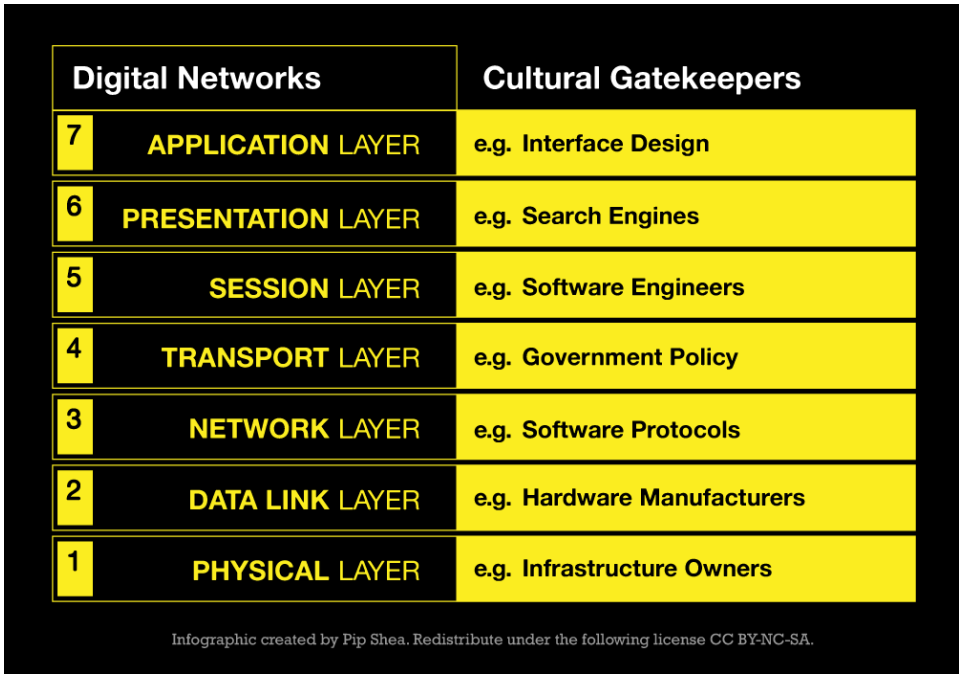


Figure 1: Digital Networks and Cultural Gatekeepers Infographic

(Design: Pip Shea)

This argument is based on the idea that technological artefacts – in this case, networked software and hardware – have politics. In 1986, Winner expressed that "explicit attention" needs to be paid to this idea, arguing that:

> No idea is more provocative in controversies about technology and society than the notion that technical things have political qualities. At issue is the claim that the machines, structures, and systems of modern material culture can be accurately judged not only for their contributions to efficiency and productivity and their positive and negative environmental side effects, but also for the ways in which they can embody specific forms of power and authority. Since ideas of this kind are a persistent and troubling presence in discussions about the meaning of technology, they deserve explicit attention (Winner 1986).

Similarly, Star's (1999) article *The Ethnography of Infrastructure* calls for the unearthing of "the dramas inherent in systems design" by studying "the boring things" – such as the telephone book, classification systems, and databases (1999, 377). She describes the electronic code that tells the stories of digital infrastructure as inaccessible, describing it as "not the usual sort of anthropological strangeness", more of an "embedded strangeness, a second-order one, that of the forgotten, the background" (1999, 379). From this premise, Star argues that new methods are needed to understand the "imbrication of infrastructure and human organization" (1999, 379).

My call for community artists to engage with the politics of network software and hardware, does not advocate for practitioners to become systems administrators or dedicate their weekends to learning code. Rather, it suggests they develop a better sense of their own user agency in relation to internet technologies so they are in a position to consider the user agency of their project participants. This involves looking beyond the creation of content to the emergent modes of participation and connection that are increasingly determining the formation of cultural norms, logics, and resistance. Creating distinctions between participation, connectedness, and cultural agency, may help them understand the dynamics of human agency in the networked culture context.

2.5 Survey of Participatory, Socially Engaged Practices

Socially engaged, participatory practices are influenced by, and aspire to social justice, equality, enfranchisement, and human rights advocacy. Practitioners working in these areas are experiencing a turn to digital networks as constitutive of practice. This shift away from content creation as the dominant mode of production is revealing digital networks such as the internet as something other than enablers of creative artefacts. It is helpful for the community arts sector to consider the activities of these adjacent fields such as art activism, community development, the maker movement, and civic media initiatives to establish how the internet is enabling distinctive, emergent modes of creative and organisational practices, while challenging established notions of artistic excellence.

The current framing of the Australia Council Community Partnerships committee's "guiding principles" relies heavily on rhetoric espousing *excellence:* specifically artistic excellence, and excellence relating to cultural development. But how can this aspiration be understood in a contemporary context where computer and mobile device networks are encouraging creative activities that differ from traditional outcome-driven arts practice? Although community arts have traditionally been a broad church of artistic practice, they have generally been understood through the lens of the production of cultural artefacts. This section suggests that in order to understand artistic and ethical excellence in the current moment, new markers and methods of evaluation should be considered.

The current moment signifies the movement from "convergence culture" (Jenkins 2006) – where the convergence of old and new media have led to the reconfiguration of the relations between production and consumption, industries and audiences – to emergence culture. Emergence describes what happens when complex systems arise from a large number or variety of relatively simple interactions (Johnson 2002, 21), while emergence culture describes the by-products of complex bottom up socio-economic systems, such as new practices, norms, values, and social ties. This is the foundation from which new articulations of excellence should be developed for the community arts sector.

The broad shift from convergence to emergence is exemplified when comparing the Australia Council's old definition of new media art, and the activities their current Inter-arts office is beholden to nurture. Where the old definition encouraged processes "where new technologies are used by artists to create

works that explore new modes of expression" (Lovink 2005a, 88), the new definition supports "interdisciplinary and hybrid arts, where artists experiment across media, performance, spaces and networks, to generate new practices beyond existing art forms" (Inter-arts website 2010). This has seen the field evolve from exploring new modes of expression to developing new artistic practices. These practices involve the development of new types of artefacts, the development of new modes of interaction, and the pioneering of new creative processes.

The terms connection, experimentation, and play are finding their way into artistic parlance more and more, providing further evidence of the emergent media moment. The conversations, connections, and communities that form around creative activities have also elevated the creative process to having, at the very least, equal standing with production values. Practices such as bio-art, generative art, remixing, and online communities of creative practice, add momentum to the emergent media shift, creating a process, and collaboration focused moment.

The Post-Media Lab is an example of the shift to emergent media paradigms. It is a collaboration between Leuphana University and Mute Magazine that draws on Guattari's concept of "social and medial assemblages which unleash new forms of collective expression and experience" (Remaking Media Practices: From Tactical Media to Post-Media 2013). The Post-Media Lab provide participants (artists, technologists, film-makers, activists, cultural/media theorists) with the "practical and intellectual support and resources to build real-

world, aesthetic, technical or theoretical assemblages which operate acutely on the interface between digital networks and social and political life" (Remaking Media Practices: From Tactical Media to Post-Media 2013).

Culture-makers taking advantage of the emergent media moment, flow with the forces that are disrupting existing institutional arrangements. Their methods can be described as *agile*, and they practice disassembly and reassembly of mediated spaces, or *bricolage*: one of the three principle components of digital culture outlined by Deuze (2006). In reference to Levi-Strauss, Hartley defines bricolage as "the creation of objects with materials to hand, re-using existing artefacts and incorporating bits and pieces" (2002). These culture-makers can be artists, activists, teachers, and children. Some are critically conscious of the disruptive nature of their practices, others operate in this way because it simply makes sense to. Some choose to actively critique the emergent media environment they inhabit, such as so called *New Aesthetic*[6] artists who situate digital glitch artefacts as artworks to document the "grain of computation" (Berry 2011b).

This movement to critique and expose technology is not new. In Shanken's essay *Investigatory Art: Real-time Systems and Network Culture* (2012), he contextualises his argument by offering a quote from North American sculptor and academic Jack Burnham (1969):

> Artists are 'deviation amplifying' systems, or individuals who, because of psychological makeup, are compelled to reveal psychic truths at the

[6] The New Aesthetic is a term coined by James Bridle to describe his collection of that "point towards new ways of seeing the world" http://new-aesthetic.tumblr.com/about

> expense of the existing societal homeostasis. With increasing aggressiveness, one of the artist's functions is to specify how technology uses us.

Burnham made some of the earliest claims regarding the relationship between art and software, illustrated by the title of an exhibition he curated titled *Software, Information Technology: Its New Meaning for Art* (1970). This exploration of software as a metaphor for art was predicated on the idea that software was "designed to function as a testing ground for public interaction with information processing systems and their devices" (Shanken 1998).

The first time I consciously thought about the structures and dynamics of digital networks was in 2009. I had set myself the task of setting up a wifi network across five public sites in Belfast as part of an art project (Shea 2009). The initial rationale for the project was to highlight the lack of public wifi access points in the city, however an entirely new rationale emerged during my research process. I discovered that the technology that was most easy to implement was also my cheapest option: mesh wireless technology. The mesh hardware I sourced also worked in a way that allowed people to easily share their excess bandwidth. The notion of sharing 'spare cycles' then became the new rationale for the artwork. My engagement with the materiality of networks through this project provided a critical lens through which I could view the technology I was using. Namely, I began questioning why it wasn't being used more as a way of sharing bandwidth. Unsurprisingly, the answers to my questions lay in the obstructive business models of incumbent internet service providers, and media-fuelled fear rhetoric espousing the potential dangers of open wifi networks.

Although this art project was the point at which I became consciously critical of networked technology, it wasn't until I became familiar with the work of the Critical Engineers (CE) working group that I began to articulate my position as an engagement with the materiality of networks: the hardware and software shaping and shifting networked activities. The three individuals who form the CE working group are Julian Oliver, Gordan Savičić, and Danja Vasiliev. Their modes of critical engineering predominantly manifest as art projects, such as *Newstweek*, a "network intervention" and "reality distorting device" (Oliver and Vasiliev 2011). This project disrupts 'public' wireless hotspots typically deployed in coffee chains such as Starbucks. They do this by installing an innocuous wall plug device in the shop that wirelessly interferes with the display of major news websites. The artists provide a separate website where people in the coffee shops can add to or edit fake news stories.

Just as technology criticism is not new, the idea that communications technology is "socially and materially produced" was proposed by Raymond Williams in 1980 (2005, 50). Williams argued that "means of communication are means of production", a theoretical view that positioned "conscious social labour" as dependent on the "use or transformation of non-human material" (2005, 55). He extrapolates on this idea by proposing three main types of non-human material transformation: 1. *amplificatory*, devices such as the megaphone or the radio transmitter; 2. *durative* (storing), processes such as sound recording; and, 3. *alternative*, writing, graphics and the means of their reproduction (2005, 55). Williams suggests that while his typology is rather abstract, it pulls focus on

"questions of social relationships and social order within the communicative process" (2005, 55).

As a media artist, when trying to understand networks as material, it has helped me to think about how the words hardware and software have been used to differentiate between media-making processes. For example, the purpose of the video camera was to capture vision and audio, before software was used for editing. Increasingly this demarcation is dissolving as software does the job of melding media production and post-production processes. Of course hardware still has a place in media making, but developments in software are leading to reconfigurations of the position of hardware in media-making processes. Media making can now take place 'in browser', which means bits and bytes are rearranged within an interface that is hosted on a remote server connected to the internet. When isolating the materials used to make this type of media artefact, the following can be included: the code underpinning the browser software, the data centre server hosting the networked activity, and the cables relaying the packets of binary code between the two.

The theoretical underpinnings of critical engineering practice can be traced to the work of Galloway and Thacker (2007), whose proposal that political resistance in networks should manifest as "exploits": software commands that take advantage of network vulnerabilities with the purpose of disrupting an intended function. Galloway and Thacker's position also claims that looking for traces of exploits, will deliver traces of political practices. In a similar vein to the critical engineers, Rotterdam-based collective *moddr* are working artistically and

critically with the material of the internet. In 2009 they ran a series of workshops "exposing the otherwise invisible layer of wifi activity as a rich space for activism, performance, paranoia and audiovisual practice" (moddr 2009).
As detailed in their manifesto, critical engineers position "engineering as the most transformative language of our time, shaping the way we move, communicate, and think" (The Critical Engineering Manifesto 2011). It is therefore the role of the critical engineer to expose the influence of this language through exploit, the "most desirable form of exposure". They see dependence on technology as a rationale for exposing the inner workings of said technology, raising awareness that our political literacies are challenged with every technological shift, regardless of scale. Critical engineers expose "interrelationships between devices, bodies, agents, forces and networks", to "reconstruct user-constraints and social action through means of digital excavation" (The Critical Engineering Manifesto 2011).

In June of 2012, I attended the OpenHere Festival in Dublin. I was there for *NETworkshop*, a five-day course offered by Oliver and Vasiliev (see Figure 2). The objective of the course was to teach "low level networking for wireline and wireless networks using only command line tools" so students could learn "how to manipulate computer networks and how they manipulate us" (Oliver and Vasiliev 2012). The workshop advertised that no prior knowledge of computer networking was required, and it attracted people from various sectors such as artists and activists. There was also an anthropologist in attendance. Her rationale for being there was that she was studying humans in the context of the

information society, so she felt it necessary to learn the language that underpinned their interactions: network programming.

Figure 2: Scraping unencrypted data from the wifi spectrum in Starbucks, NETworkshop, June 2012, *Dublin (Photo: Pip Shea)*

Oliver was recently involved in Tactical Magick[7], an exhibition and series of events held in Hobart, Australia. The event brought together artists and educators whose work "responds to the emergent conditions of a networked world; a realm increasingly transmitted through fiber [sic] and code" (Mauro-Flude 2013). The event described these artists, programmers, and thinkers as those "from the frontline of the maker aesthetic" which it frames as a movement that is

[7] Tactical Magick was developed by *Miss Despoinas Critical Engineering Space* in conjunction with Contemporary Art Spaces Tasmania (CAST).

responding to our "increasingly machine based and interconnected existence" (Mauro-Flude 2013).

The critical engineers are also considered art activists, and hacktivists: the "political practice par excellence of participatory politics in the age of the internet" (International Colloquium: The Participatory Condition 2013). Perceptions of hacker culture vary, but can range from the criminal – increasingly the frame used by US government operators and mainstream media (Sauter 2013) – to the human rights activist (Garrett 2012). Free software hackers are also seen to "concretize a number of liberal themes and sensibilities" such as "avid free speech principles" where the "importance of knowledge, self-cultivation and self-expression" is "the vital locus of freedom" (Coleman 2013, 3).

McQuillan (2012c) illustrates the hacker identity in broad terms, beyond the computer programmer context, as someone who "enjoys the intellectual challenge of overcoming or circumventing limitations". His conceptual framework "Critical Hacktivism" (2012b) describes a mindset, an action, and a process of making that considers the affordances – the potentialities and constraints – of technology. McQuillan positions this framework as a non-determinist approach that works with and values the materiality of technologies by "messing with stuff" to overcome barriers. His idea is premised in the notion that the uses of technology are not limited by technology itself, and are open to "unexpected interpretation" (McQuillan 2012b).

McQuillan is applying his concept of critical hacktivism in workshop settings he calls *Social Innovation Camps* (sicamp). These are 1-2 day events that bring together people interested in using the web to achieve social goals. The aim of the events is to "connect the affordances of social technology to social innovation in a way that evades capture by existing institutional and knowledge structures" (McQuillan 2012b). The events are interdisciplinary, foster peer-to-peer interaction, and stress activities based on rapid prototyping. McQuillan favours the process of prototyping over applying for funding as "you can make stuff sooner" (2012a). He even proposes that "prototyping might be the new policy", where policy is an activity "based around deferment". Here a prototyping activity like sicamp offers "a sense of agency because you don't have to ask permission" (2012c). Some have described this as a "prototype turn", emphasising collaborative and open design principles that "challenge and redefine the existing social, political, and technical limits (of software and hardware)" (Prototype Turn, Workshop at ACM Creative & Cognition 2013).

Activities associated with critical hacktivism illustrate a nascent grassroots movement involving performative *making*. This emergent DIY culture is creating shifts that are permeating social, economic, and political arenas. The effects of maker culture on informal education paradigms can be seen through the rise of hackerspaces, physical places where technology enthusiasts meet to collaborate; fab labs[8], community spaces that enable fabrication and rapid prototyping activities; and code clubs, where programming code is framed as a

[8] The concept of the fab lab – fabrication laboratory – was first devised and implemented by MIT's Centre for Bits and Atoms under the guidance of Neil Gershenfeld.

creative art and taught to primary school aged children. Effusive rhetoric continues to surround the maker movement, but increasingly, critiques of its gendered and cultured nature are emerging. Powell (2012) suggests that maker culture often elevates the status of traditionally male activities over stereotypically female ones. She proposes the following to counter this problem:

> Maker culture should be acknowledged as a research community – first, so we can acknowledge the innovations of cultures past, some of which are obscured because of the inattention to women's history. And second, so we can avoid essentializing gender and culture when we make recommendations for how to open knowledge or create knowledge sharing processes (Powell 2012).

Other criticisms have been leveled at *MAKE Magazine*, a periodical closely associated with the maker movement, when it entered in to a partnership with the US Defense Advanced Research Projects Agency (DARPA) to put makerspaces in high schools (O'Duinn 2012).

The rise of initiatives such as Information Communication Technology For Development (ICT4D) and Mobile Communication Technology for Development (M4D) also indicate shifting international and community development priorities. This fledgling movement has recognised that information communication technologies are a matter of concern for development practices, however issues surrounding sustainability and appropriateness are still being contested. The most publicised and contentious ICT4D project to date is One Laptop Per Child (OLPC), an initiative that develops rugged, low-cost, low-power laptops that have been distributed to groups described as "the world's

poorest children" (OLPC Mission 2010). The scheme has divided critics who are not sure whether to label it dubious social engineering, visionary dreaming, mass empowerment or pointless frivolity (Butler 2007).

Another area of socially engaged practice responding to emergent media paradigms is civic engagement. Higher education institutions are visibly working to understand how the internet is affecting, and will continue to affect the agency of citizens, indicated by initiatives such as the MIT Centre for Civic Media, and the Emmerson College Engagement Lab in Boston. Social media platforms and mobile games are two internet paradigms being studied in an attempt to understand the future formation of individual consciousness surrounding the political privileges and rights of citizens (enfranchisement). Ethan Zuckerman from MIT's Centre for Civic Media has proposed that "civics is starting to get really complicated" as "groups like the Harry Potter Alliance leverage fandom for the books as a gateway to social action, like ensuring the chocolate being used to make Harry Potter candy bars are Fair Trade" (2013).

The position of libraries, museums, and public service broadcasters as facilitators of culture and informal educators is also shifting. These incumbents have made several efforts to deliver new cultural infrastructure platforms, and new forms of cultural intermediation that contribute to the idea of distributed cultural authorship (Hutchinson 2013; Wilson, Hutchinson and Shea 2010). The Australian Broadcasting Corporation's ABC Open, and the National Library of Australia's remix project Re-Picture Australia are two such initiatives. The emergence of the social enterprise as a new institutional form also indicates how

the field of community development and social work is shifting. Melbourne-based Youthworx is one such example, where homeless and 'at-risk' young people are offered opportunities to become co-creators within a youth-run media organisation (Podkalicka and Staley 2009).

The above examples can all be situated in what Douglas and Seely Brown call the "the new culture of learning" (2011). This formulation highlights how processes of learning are shifting due to the internet and related sociotechnical change. The new culture of learning incorporates the idea of *social learning*. This, combined with a focus on the making of things, is central to the proposition of *connected learning*. Connected learning is a term being used in the humanities to describe learning that happens across different sites and locations, both online and offline, and between formal and informal education. Research in to these dynamics are being guided by scholars associated with the Connected Learning Research Network, who recently published a report titled *Connected Learning: An Agenda for Research and Design* (2013). The report's major hypothesis is that these "cross-cutting repertoires of practice" – particularly in relation to young people – require "caring adults, supportive peers, shared cultural references, and authentic ways of contributing to shared practices in order to mobilize their skills and knowledge" (Ito et al. 2013).

Observations of socially engaged practitioners who share an affinity with community arts practice reveal new configurations of what is considered innovative, and indeed what might be considered excellent in the digitally networked era. This creates opportunities for community artists to develop new

parameters for evaluating their practices. The community arts sector is in a good position to appropriate philosophical and methodological tools from these fields, as in many cases, there is a commonality that they are working towards the broader aspiration of distributed cultural authorship and enfranchisement.

2.6 Conclusion

This contextual review has revealed a gap in knowledge surrounding the changes and impacts the internet is having on sustainable community arts practice. I have argued for the continuing relevance of the field because the participatory paradigms afforded by digital networks bring with them new exclusionary dynamics. Scholars maintain these dynamics are sociotechnical, identifying that internet software and hardware have embedded material politics that shape our online participation. The following chapter situates these material politics as a matter of concern for community artists, while recognising that there are a variety of political imperatives facing the wider field.

This thesis is concerned with the capacity of community arts practitioners to assess the appropriateness of the internet technologies they use. Having established this as an important sustainability approach – where systems are designed that encourage and enable newly formed cultural practices to continue after the completion of a community arts project – the thesis now argues for a new lens, that of network materiality, to develop an alternative ethics of appropriate internet technology.

Current usage of digital networks, such as the making of online videos, digital games, and the sharing of media across social platforms, has contributed to major shifts in creative practices and outcomes in the field; however, practitioners have taken advantage of only some of the opportunities afforded by the internet as there has only been a partial engagement with digital communications networks. The following chapter explores ways in which community arts practitioners might engage with network technologies, beyond the visible affordances of participatory culture. Through theorising appropriate internet technology new sightlines for sustainable community arts practice are offered to guide practitioners, researchers, and policy makers.

3. Theorising Appropriate Internet Technology: Reconfiguring the Ethics of Sustainability

3.1 Introduction

In the realm of community arts, *appropriate technology* is based on embracing boundaries, which are always context specific. They may be economic, social, governmental, or personal, and offer parameters within which practitioners can critically assess technologies for the design and execution of sustainable community arts projects. The selection of technologies – regardless of the boundary details – is a political act as the decision to use a particular technology is inherently a promotion of that system. So when practitioners are selecting internet technologies for their projects a new raft of sociotechnical dynamics come in to play. These material politics are impacting the practice of community arts and insufficient research exists that investigates their effects.

The following chapter renders a new vector of appropriate technology focusing on the internet and digital networks. My theorising of *Appropriate Internet Technology* offers a new ethical frame to help community arts practitioners engage critically with the human and technological dynamics of digital networks. It considers the flows of power associated with the internet: the structures and dynamics of its packet-carrying infrastructure, its software protocols, its modes of participation, and emergent barriers to entry and exit. The theorising of appropriate internet technology intends to isolate networked practices to identify

norms and values embedded in network technology and to help practitioners reconsider dominant ways of thinking – to transcend structural defaults.

Four sections are offered in support of this position. I begin with a review of definitions of appropriate technology, before discussing current Internet Studies and Software Studies scholarship surrounding the computational turn and network materiality. I pull focus on software as an important paradigm of distributed cultural production, arguing that engagement with network materiality offers opportunities for community artists to understand networked potentialities so that more critical assessments of internet technologies can be made. I then map Development Studies theories – specifically that of recent scholarship of ICT4D – to current theories of network culture, and argue that the community arts sector should continue its philosophical association with Development Studies. I conclude my theoretical framework with a proposal for community artists to become critical designers and makers to help them uncover hidden affordances of technologies, to iteratively, and collectively evolve the ethics of appropriate internet technology. By grounding these activities as *design*, the assembling of appropriate internet technology is revealed as a political act (Fry 2009).

3.2 Defining Appropriate Technology

The beginnings of the appropriate technology movement can be traced to E.F. Schumacher's influential text, *Small is Beautiful* (1973). The book contests that scientific and technological advances have solved the problems of production, instead proposing that society's "estrangement from reality" (1973, 3) – due to

an inclination "to treat as valueless everything that we have not made ourselves" (1973, 3) – leads to an inability to deal with the implications of the consumption of finite natural resources, such as oil. Schumacher's thesis responds with an outline of an alternative project of development focusing on "intermediate technology" (1973, 107), one he claims is "vastly superior to the primitive technology of bygone ages but at the same time much simpler, cheaper, and freer than the super-technology of the rich" (1973, 108).

Howe (1979) reminds us that many of the ideas outlined in Schumacher's *Small is Beautiful* (1973) were not new:

> Mahatma Gandhi's work with the All India Spinners' and Village Industries' Association some thirty years earlier, for example, had been inspired by a very similar set of ideas and these, in turn, could be set within a still older tradition (Hoda 1976: 145-47). But coming at a time of world 'energy crisis', of growing disenchantment with the broad social, political and ecological implications of 'advanced technology', and in particular of an increasing awareness of the undesirable consequences of the wholesale transfer of such technologies to the less developed countries (Chenery el al, 1974: 170-72), Schumacher's formulation had a very substantial impact on the thinking of administrators and planners within aid agencies, as well as on officials within the underdeveloped countries themselves.

Following on from the work of Schumacher, Drengson (1982a) offers the idea that appropriate technology is a "self-critical stage and attitude" and the most

"mature" stage of technological development. He proposes it outstrips "technological anarchy", unbridled technological exploration supported by a lack of established standards; "technophilia", a position of technological evangelism that can see people identifying with technology; and, "technophobia", fearing or rejecting technology outright (Drengson 1982a). Drengson is also of the opinion that "appropriateness is often discovered only as a consequence of a long process of application" (Drengson 1982b, 162).

Drengson's position on appropriate technology stresses that through improvisation, adjustment, and incremental innovation, people can free themselves from "attachment to specific models and doctrines" (Drengson 1982a). This works for the community arts context as it encompasses the idea that different projects have different requirements based on the different needs and desires of both individuals and communities. So to apply appropriate technological solutions to community arts projects helps creative practices continue in the community beyond the life of the project.

Appropriate technology is arrived at through praxis, a process of extracting theory from practice and applying it back to practice described by Dewey as "intelligent practice", an idea he contrasted with "uninformed practice" (1915). An iterative approach to practice, praxis helps practitioners critically evaluate technologies based on what they have done and what they intend to do in projects. In the context of appropriate technology, praxis extends creative practice to aid the design of systems that are "an artful fit between technique, tool, human, moral, and environmental limits" (Drengson 1982a, 103). This is a

critical, reflexive process that scrutinises actions and motivations to measure appropriateness. The necessity of critical engagement to trigger self-reflexivity for the design of appropriate technology situates it as a pragmatic approach.

A contemporary tranche of the appropriate technology movement is open-source-appropriate technology (OSAT). OSAT applies sharing paradigms from the open source software movement, to both hardware and software projects that aim to contribute to sustainable development. Vinay Gupta's Hexayurt Project is one example of an OSAT initiative. Branded as "free hardware housing for the world" the Hexayurt provides shelter as well as "a comprehensive family support unit which includes drinking water purification, composting toilets, fuel-efficient stoves and solar electric lighting" (Hexayurt Project 2011). Blueprints of the Hexayurt can be downloaded from *hexayurt.com* or from *Appropedia*, a social learning wiki that houses information and facilitates collaboration around the idea of appropriate technologies and sustainability.

3.3 The Computational Turn and Network Materiality

The concerns of scholars in the humanities are increasingly being influenced and affected by technologies that are underpinned by computerised mathematical calculations: a shift described as the *computational turn* (Berry 2011a). This fundamental reconfiguration of human culture can be seen in changing organisational models, production processes, aesthetics, entertainment experiences, and communication paradigms. The all-pervasive nature of this sociotechnical moment sees the humanities responding with a new focus on the computational object, in the hope the field might contribute to an increasing need

for *computational literacies* as well as *computational pedagogies* (Berry 2011a). This broader humanities computational turn is reflected in one current focus of Internet Studies, which can be thought of as a *material turn* (Banks 2012; Apperley and Jayemane 2012).

This section positions my study among discourses of material politics that are grounded in Internet Studies and Software Studies. This evaluation of relevant scholarly work is necessary to establish one of the central arguments of the thesis: that network materiality must be considered in order for a new ethics of appropriate technology to emerge. This idea is linked to how the structures and dynamics of internet technology influences many aspects of our networked actions (Lessig 2000). From large infrastructure elements such as data-carrying submarine cables, to algorithms that make connections between people and companies on our behalf, there is an increasing need for us to engage with the materiality of an internet that is constantly, and not overly visibly, changing. The acknowledgement of networks as material encourages community artists to become familiar with the 'stuff' of networks, to enable new perspectives that may reveal new affordances (Manovich 2008). If community artists anticipate the potentiality of networks to form a richer view of what constitutes appropriate technology in the digitally networked moment. It is also proposed to counter effusive rhetoric surrounding networked platforms and acts of participation within such networks.

Technological development is not an autonomous occurrence. It is nonlinear process that is liberated and constrained by materials and impacted by social

factors. This is most notably described in Bijker's (1997) account of the social influence of the technological evolution of the bicycle. His is a reminder that nontechnical factors such as politics and economics are considerations of technological development, proposing that further analyses be conducted within a framework of "sociotechnical ensembles". Similarly, the interplay between technology and culture is described by Slack and Wise to be a "set of dynamic, changing and inter-related connections" that are both human and technological (2005: 109). They look to *articulations and assemblages* as a strategy for understanding the interplay between technology and society; considering the matrix of actors, non-actors, and liminal spaces that affect change. Slack and Wise maintain this position with the following assumptions:

1. Technology is not autonomous, but is integrally connected to the context in which it is developed and used;
2. Culture is made up of connections; and
3. Technologies arise within these connections as part of them and as effective within them.

Through considering articulations and assemblages technology can be viewed beyond the binary of being either passive or aggressive. This thesis distances itself from the extremes of determinist and instrumental views of technology as these opposing paradigms abstract technology from the context in which it operates (Trend 1997). Such an obscuring of the values and belief systems imprinted on technology by corporate owners, programmers, and designers, limits the community artist in their pursuit of appropriate technology.

In proposing that the articulations and assemblages of networks should be a matter of concern of community artists, I am suggesting an engagement with the idea that networks are material. This discussion among Internet Studies scholars gained momentum between 2006 and 2008, during which time several texts were published exploring the nonhuman quality of networks, which gave rise to a fledgling scholarly offshoot: Software Studies. Matthew Fuller was one of the first scholars to asked what it might mean to have "a fully fledged software criticism": a question he investigates in his book *Beyond The Blip* (2003). Fuller singles out Jeanette Hoffmann's claims of the gendering of word processing software, and Michael R. Curry's formulation of a politics of geographic information systems (GIS), as foundational examples of scholarly software criticism. Fuller organised the first Software Studies Workshop at Piet Zwart Institute in Rotterdam in 2006. During the introduction to the workshop Fuller talked about how there are very few places where the "specific nature, the materiality of software is studied except as a matter of engineering" (Manovich 2008).

The term "software studies" first appeared in Manovich's influential text, *The Language of New Media* (2001) where he proposed a shift from media theory to software theory. Then through his text *Software Studies* (2008), Manovich poignantly contextualises software as an emergent paradigm by casting our minds back to the 1990s, when the most powerful multinational corporations were those who produced and processed material goods – shoes, burgers, and cola – attached to successful global marketing and branding

strategies. He contrasts this with data from 2007 that positions Google as the most recognised brand in the world, before casting Apple, Amazon, Facebook, and Ebay, as "culture software" that carry "atoms of culture" in the form of media, information, and human interactions. This idea is further explored by Galloway and Thacker where they describe how the process of globalisation has "mutated from a system of control housed in a relatively small number of power hubs to a system of control infused in to the material fabric of distributed networks" (2007). Manovich suggested at this time that software was invisible to most academics and artists interested in the social effects of ICTs (with the exception of the open source movement). He proposed that elevating software in discussions about the "network society" and "social media" was crucial to ensure the causes of societal changes are dealt with as thoroughly as the effects.

Other investigations of software materiality include Galloway's *Protocol* (2006), an inquiry into the "principle of organization native to computers in distributed networks". Software protocols are the core of his critique, the sets of coded rules that define technical standards in our digital communications networks. Galloway describes protocological order as a new "management style" in an attempt to conceptualise how control exists after decentralisation (2006, 30). Galloway and Thacker (2007) continue this discourse of networks and control, cautioning that by their mere existence, networks "are not liberating" and that "they exercise novel forms of control that operate at a level that is anonymous and nonhuman, which is to say material" (2007, 4). Galloway and Thacker also articulate "counterprotocological practice" as a

method of instigating political change within sociotechnical networks (2007, 97).

Investigations of network materiality do not stop with software. Wireless networks add an entirely different layer of stuff as a matter of material concern. Wireless data packets, and the hertzian wireless spectrum might be 'invisible' but they can still be considered material. This is exemplified by the public debates surrounding the "spectrum commons" that began in the late 1990s. The way wireless networks function can be dramatically affected by environmental factors, such as weather conditions, or due to the presence of other people or inanimate objects. These material conditions of wireless technologies are discussed by Mackenzie in his 2010 text, *Wirelessness: Radical Empiricism in Network Cultures* (2010).

Manovich (2008) takes the position that it is helpful to practice what one writes about. He cites Katherine Hales, Mathew Fuller, Alexander Galloway, Ian Bogost, Geert Lovink, Paul D. Miller, and Katie Salen as examples of scholars who have experienced the front line of code. Fuller's essay *Elegance* (2008), is one such example where the experience of the practitioner is a crucial aspect of the ideas offered. The vision of computing offered by Fuller through the notion of elegance involves the ways that programmers navigate the constraints of software development. He proposes that a condition of elegance is that it "charts a trajectory, often an unlikely one, through possible conditions of failure" (2008, 90).

Fuller's most recent book *Evil Media* (2012), co-authored with Andrew Goffey, turns to the influence of "gray media": the software that supports countless administrative and work activities. These systems – "databases, group-work software, project planning methods, media forms" (2012, 1) – are having profound effects on the habits of institutions, businesses, and people. Fuller and Goffey suggest these systems are often ignored as media artefacts, which obscures their material qualities leaving their sociotechnical agency relatively unquestioned.

In this thesis I call for an engagement with the materiality of networks partly in response to the community arts sector's increasing use – some may consider dependence – on free yet commercial and proprietary software platforms, such as FaceBook, Google, and Twitter. These social media services are not "merely facilitating networking activities", rather, they offer users a particular construction of connectivity and participation (van Dijck 2013, 6) and create "implications and ramifications that far outlive the original design meetings in which those choices were made" (Neff et al. 2012). They capture, process, and archive both quantitative and qualitative information, and furthermore, they become the "curators of public discourse" (Gillespie 2010). As well as shaping activities through designed defaults, their platforms exist as part of a participation paradigm that always involves "massive swarms of users" (Lovink 2011, 73). The corporate entities that set the agendas for these social platforms "trade in the rhetoric of networked utopia" to develop the "necessary apparatuses of an idealised peer-to-peer economy" (O'Dwyer and Doyle 2012).

Trend describes the efforts of commercial social media platforms to help citizens enhance communication prompting an "endless cycle of hope and disappointment" (Trend 1997, 105). Confusion over social norms, and identity performance, are blended with shifting defaults, policies, and politics surrounding privacy and 'opting out'. The software and hardware functions underlying these dynamics "operate at a level that is anonymous" or invisible, which "makes them difficult to grasp" (Galloway and Thacker 2007, 5). Even if they were visible, they would be inaccessible to most people: "few are equipped to understand it with fluency, and even fewer can reverse engineer object code to arrive at the higher-level languages with which it correlates" (Hayles 2006). These invisible dynamics create unequal patterns of distribution, inclusion, and exclusion. Certain solutions are elevated over others, "threatening the elimination of alternative solutions to the same problem" (Grewal 2008, 5). When this idea is viewed under the lens of Barzilai-Nahon's (2008) *Theory of Network Gatekeeping*, new forms of cultural control are revealed.

The imperative to investigate the materiality of the internet to uncover the politics of participation, is echoed by media and communications scholar Gina Neff in Bird et al. (2014). She states unequivocally that, "we cannot truly understand participation in the digital age without richer theories of the role of materiality in communication" (2014, 1236). To ground this idea she discusses the coming 'Internet of Things' and how the rhetoric of agency is "shifting drastically away from human-centered power and action" (2014,

1236). Neff goes on to argue for expanded notions of communicative actors by paying attention to the materiality of sociotechnical networked systems.

It is necessary to note that there are "inevitable difficulties" associated with materialist modes of investigation, as outlined by Williams (2005, 103). The general problem of materialism he proposes is that "there is a tendency for any materialism, at any point in history, to find itself stuck with its own recent generalisations" and that developed categories are "inherently subject to radical revision" (2005, 103). My response to this perceived vulnerability of the approach is that revisiting methods and reconfiguring perceptions are at the heart of understanding the changeable materials of network software and hardware, and is therefore an appropriate theoretical basis for my philosophical framework. Williams' suggestion that materialist investigations are historically connected to "certain radical forms of social and political struggle" (2005, 104), further supports my promotion of materialist philosophies within community arts.

The emergent nature of current sociotechnical change sees the literacy capacities of community artists challenged with every software 'upgrade', interface change, and networked social interaction. By considering the materiality of digital networks, practitioners may begin to understand the associated politics and potential of the social media platforms they rely on, as well as the broader implications of internet use. As network actors shift norms and shape data, a reluctance to consider network materialities may jeopardise attempts to gauge the appropriateness of internet technologies.

3.4 Integrating ICT4D Ethics: Capability Failure, Technology Choice, and the Imperative of Network Agency

Theorising appropriate internet technology involves making a case for the community arts field's continued alignment with Development Studies, specifically the vector of practice that has become known as ICT for Development (ICT4D) – even though this association has proven contentious due to its problematic association with colonialism (Schech and Haggis 2000). My position picks up on Nussbaum's identification of the internet – along with migration and global warming – as one of the major contemporary issues facing development studies and practice (2011, 143). I argue that the theoretical and conceptual frameworks being designed by development scholars, around the notion of appropriate emergent technologies, may be integrated into community arts policy and practice. Kleine's (2013) application of Sen's (1999) capabilities approach to ICT4D is singled out, as she reinforces the view that development is people centred, while elevating the idea that development practices should nurture people's capacity for choice.

Indian economist Amartya Sen began developing his capabilities theory in the 1980s. His work in this area rose to prominence via his influential text, *Development As Freedom (1999)* in which he argues that development can be seen as a method of expanding people's freedoms. Sen's capabilities approach stresses people's freedom to choose the lives they have reason to value and that poverty is best understood as "capability failure" as opposed to a shortage of commodities or wealth (Nussbaum 2011). Both Sen (1999) and Nussbaum (2011) propose that people are capable of more than modern societal structures

allow. An example of a modern societal structure that poses inherent limitations on the people who use them are digital communications networks. This echoes discourse surrounding socio-economic disadvantage and digital inclusion shifting from concerns regarding access to technology to questions of whether individuals have agency within networked environments (see Chapter Two, Section 2.4).

My argument for the community arts sector to continue drawing ideas from Development Studies builds from the premise that there is a productive correlation between the capabilities approach and what I have termed *network agency*. My construction of network agency builds from van Dijck's (2013) conceptualisation of "user agency". Having network agency involves being conscious of the expectations formed about the use of existing digital networks; understanding the implications of communicating over networks and sending content over networks; being able to participate in conversations within the network and about the network; developing an awareness of our network communication rights; and, managing anxiety about personal data collection and surveillance (Crawford 2014). The difference between being network literate and having network agency is that the former describes having the capacities to act in the network, where the latter describes acting critically within the network. A display of network agency would also include consciously managing the expectations one has around digital networks.

The capabilities approach is "arguably the currently most recognized heterodox development approach" and has been enthusiastically embraced by scholars and

practitioners, but its application still raises many ethical and practical questions (Kleine 2013, 36). Kleine's (2013) "technologies of choice" offering is situated among other scholarly work that makes important connections between the capabilities approach and ICT4D (Garnham 1999; Mansell 2002). Her contribution lies in the addition of the choice framework to further develop the capabilities approach as a tool for "systemic analysis in the ICT4D field and beyond" (2013, 41).

Kleine's proposal stems from her concern that the "intellectual endeavour to understand what is happening" with ICTs is in danger of "lagging behind" in many disciplines, and particularly so in the field of Development Studies. Her proposal uses two questions as points of departure:

1. How can disadvantaged people gain access to technologies that might assist them in transforming their lives; and,
2. Once they have gained access, how can it be assured that disadvantaged people are not further disadvantaged by the framing institutions, social norms of use, and ideas embedded in to technologies?

Having established the link between enfranchisement and network agency, Kleine's second question is of particular interest. If reframed in the following way, it accrues relevance to this thesis: how might community arts practitioners work to ensure that further disadvantage is not a by-product of their projects? Klein advises that a strategy for dealing with the rapidly moving technology in development studies is to take a step back, "to attempt to understand the underlying principles and recurring patterns in this story of change" (2013, 2).

We are also reminded by White (2011) to frame computer culture as an artefact of Western thinking when in an ICT4D context. Kleine stresses that the internet must be addressed under the lens of choice, in that practitioners must place applications and associated online spaces on a "determinism continuum" to analyse how user choices are predetermined by technology (Kleine 2013, 37). If community artists can isolate the ways in which choices are shaped, they will be better placed to critically assess the suitability of software and hardware.

In addition to this process of understanding technology and values Kleine stresses the importance of developing "understandings of the possible" (Kleine 2013, 38) to enable the emergence of the most appropriate technological solutions. Developing understandings of the possible is synonymous with revealing affordances. This proposal from Kleine provides further rational for community arts practitioners to familiarise themselves with network materiality in order to assess the potentiality of digital communications systems.

I propose that the community arts field use Kleine's people centred approach to provide ethical guidance in the design of appropriate internet technologies. The notion of people centred development aligns well with Rainie and Wellman's (2012) positioning of "networked individualism" as the new social operating system of the network society. Rainie and Wellman posit that the networked individual is the new dominant paradigm of social operation, taking over from "longstanding operating systems" that have traditionally formed around large bureaucracies and tight-knit communities. The operations at the centre of this idea are connecting, communicating, and exchanging information. People are

simultaneously doing multiple things, while interacting with multiple others, so with the individual positioned increasingly at the "autonomous centre" of interactions, community artists can reconfigure their practices in line with people centred development.

The idea that community artists would be dealing with communities of individuals rather than community groups might seem like a subtle difference, but it has the potential to completely reconfigure the way that community artists interface with their participants. The traditional notion of the steering committee – usually consisting of stakeholders such as local government representatives and school teachers – could be replaced by a wiki, which invites project participants to steer proceedings. This proposal for new modes of project governance aligns well with the choice framework, and highlights how "rules, laws, norms, and policies are embedded in, and often emanate from, discourses" (Kleine 2013, 49). This creates an opportunity for participants – networked individuals – to take part in the formation of this structure of power. This focus on the networked individual has the potential to reveal more about the lives they have reason to value.

3.5 Community Artists as Critical Designers and Critical Makers

When community artists introduce technologies to communities, they are inherently promoting particular systems. The decision to use technology must be arrived at through critical processes in order to decipher whether such technology is appropriate. Critical Design can aid this aspiration as it provides a method for combining the aesthetics and ethics of appropriate technology. It is a

point of departure that can help work through creative aspirations, at the same time as assessing different social, economic, and technological contexts. Popularised by Dunne and Raby (2001) Critical Design challenges preconceptions and expectations of designed things such as software interfaces and network hardware. Typically applied in the context of product design it can be a way of thinking or making applied to any given context. It is a suitable method for deciphering appropriate technology in community arts projects as it does not determine how participants become involved in the appropriate technology design process.

Critical Design uses speculative design proposals to challenge assumptions we have regarding the products we use. It is considered a theoretical and methodological position that focuses on how the design process arranges relations between things, ideas, people, and places. Critical Design can be considered "alternative design scholarship" where investigations "seek to understand how unequal power relations are embodied in, and result from, mainstream design practice and products" (Nieusma 2004, 13).

Design theory offered by Tony Fry (2009, 2011) – where he makes "sustain-ability" the object of design – supports the injection of critical design processes in to community arts practice. His configuration of sustainability looks beyond the ecological imprint made by designed things to focus on whether designed things are making a contribution to "sustaining ability" (2009, 187). He uses this frame to argue that design must be made overtly and proactively political as a response to current unsustainable levels of human activity (2011, 7). As a

counter to this challenge Fry calls for the consideration of "design futuring", where design practice is synonymous with transformative action that focuses on changing unsustainable societal paradigms (2009, 83). Fry's guide for design futuring offers three focus areas that he gives the meta term, "redirective practice" (2011, 77). The first consideration is adaptation, a reconfiguration process that counters the unsustainable; the second involves the designing away of things that block sustainment; and, the third is a process of preconfiguration, to deal with the potentials of unsustainment. Fry is also adamant that redirective practice can be undertaken by all sorts, not just designers (2009, 239).

Situated in a resource-poor sector, community artists will often consider free and low-cost technological solutions to achieve project objectives. In the internet context this translates into the choice to use open source software or free, yet commercial social media platforms; however, these software products and platforms do not necessarily deliver stand-alone appropriate sociotechnical solutions. Through the creation of process artefacts – sketches, videos, non-working prototypes – "generative friction" (Stark 2009) may emerge, so that preconceived notions of values and practices associated with internet technologies may be interrupted and disrupted. This method is recommended as a way of engaging in thought experiments that critique the technology being used.

Developing collaborative network visualisations is a critical design methodology that can be used to assess the appropriateness telematic art technologies (Shea 2011). Visualisation techniques range from abstract representations to more

analytical cartographic approaches, and are an increasingly popular method of framing information for the practice of connection making. By rendering the matrix of actors in networks visible, connections, flows, and blockages can be mapped to expose participants to the idea that "the very notion of a network is in conflict with the desire to gain an overview" (Mackenzie 2010, 9). And to expose the binary nature of networks – their logic of inclusion/exclusion – and that they are self-configurable and programmed (Castells 2009). These ideas resonate with Ascott's essay *Gesamtdatenwerk* (1989), where he describes the process of "making the invisible visible" as "the great challenge of late twentieth century art" (Ascott 2003, 222).

Having established that making appropriate technology is a pragmatic process we can frame community artists as techno-pragmatists (Davidson 2011). Situated outside the techno-utopian/techno-sceptical binary, techno-pragmatists are careful not to champion any particular technological method; or at the very least, are prepared to move on from a tool they once might have supported if it was no longer suitable for their needs. Techno-pragmatism is a critical, agile position more concerned with reconfiguring appropriateness based on the specificities of a project, than ideology wars that pit the necessities of hackability against the virtues of usability. They see "cultural generativity" (Burgess 2012) – an emergent, momentum-producing force that relies on diversity and inclusivity – as a more important value than either hackability or usability. The techno-pragmatist identity is in line with McQuillan's broad illustration of hackers as those who "enjoy the intellectual challenge of overcoming or circumventing limitations" (2012c).

Critical Making is another approach that could prove useful for community artists in their pursuit of appropriate internet technology. Popularised by Ratto (2011) this description of work attempts to conjoin "critical thinking, typically understood as conceptually and linguistically based, and physical "making," goal-based material work" (2011, 253). Ratto's rationale for merging these two activities is to use "material forms of engagement" to reconcile the gaps between the practice and theory of technologies. As an investigation of praxis, Critical Making hopes to extend critical reflection to "reconnect our lived experiences with technologies to social and conceptual critique" (2011, 253). Critical Making helps ground the aforementioned theories of network materiality in action, offering another way for community artists to explore the idea that issues of power and digital networks are now entangled with participation in cultural production.

Critical Making projects involve three stages: reviewing literature and useful concepts; working with scholars, students and stakeholders to design and build technical prototypes; before engaging in processes of reflection and reconfiguration. Critical Making differs from other approaches to design and making in that it focuses on "the constructive process as the site for analysis" (Ratto 2011, 253) and it has an overt relationship with scholarly literature. The intention behind the prototyping process is to participate in shared construction. This activity can also be thought of as collaborative tinkering, an activity that has had a long association with technology and invention.

Tinkering processes vary, but they are essentially processes of play. Playful interactions are increasingly becoming a hallmark of creative activity in the network society, emerging as a "primary means of social innovation" producing "multiple possibilities for future connections" (Galloway 2008, 20). Choi's (2010) conceptualisation of play is helpful here as she positions play as the operation at the intersection of pressure, possibility, and pleasure: where players act on opportunities to relieve themselves of pressure, which creates moments of pleasure. Choi devised this conceptual apparatus in an attempt to study play across disciplines. This context illustrates suitability for community arts considering the broad range of creative practitioners who are involved in practice.

Both the Critical Design and Making approaches are offered as methods to expand the "technological imagination" of the community artist (Balsamo 2011); to improve the quality of relations with technology; and, to encourage the subversion of technology for socially beneficial ends (Dunne 2005). Activities of this sort see community artists' "technological imaginations engaged in a complex process of meaning-making whereby both technology and culture are created anew" (Balsamo 2011). Critical design and critical making may guide community artists to imagine systems and devise prototypes that trigger critiques of internet technologies. These methodologies provide points of departure for the assembly of appropriate internet technologies. They form part of an overarching techno-pragmatist project to apply reflexivity and context specificity to community arts projects.

3.6 Conclusion

This chapter has argued that the use of digitally networked systems in community arts projects should emerge from material engagement with technology, and through critical assessments of the context of a project and its participants. This idea is encompassed in the phrase *appropriate internet technology*, which is situated as a new ethical vector of sustainable community arts practice. This philosophical position is an assemblage of the philosophies of technology, material politics, development approaches, and theories of design and making. My articulation of appropriate internet technology replaces the idea of innovation as cutting-edge hardware or software with engagement in praxis: iterative development processes that reveal hidden affordances, and encourage the circumvention of constraints through bricolage and adaptation.

The theoretical and methodological approaches offered in my framing of appropriate internet technology provides sightlines for my investigation of CuriousWorks – an Australian community arts organisation – in Chapters Four and Five. As I have previously established, CuriousWorks is an appropriate exploratory site to further develop this new ethics of sustainability as they use different combinations of open source and proprietary software platforms and networks for communications, media sharing, and organisational tasks.

The following chapter establishes CuriousWorks as an appropriate site for this research. It discusses the company's historical trajectory, operational dynamics, and ethical framework. A detailed account of their approaches and processes are contexualised and analysed in support of the major claim of the thesis: that the

idea of appropriate internet technology provides a new lens for sustainable community arts practice. CuriousWorks' processes are not representative of the wider field; rather they exemplify new and emergent digital practices not previously captured.

4. Establishing CuriousWorks as an Appropriate Research Site

4.1 Introduction

CuriousWorks is a suitable site to explore the challenges and opportunities arising from digitally networked technologies, as internet practices loom large in its operations. The company also recognises the idea of appropriate technology as an integral part of community arts practice evidenced by their aspiration to become redundant as facilitators of cultural production through helping to nurture creative agency within communities. This chapter establishes CuriousWorks as an outlier in the field of community arts in Australia, arguing that the company offers sightlines to further develop my theoretical construction of appropriate internet technology because they are not representative. Through an in-depth analysis of CuriousWorks' successes and failures the field may arrive at better understandings of what constitutes sustainable practice in the internet era. Data supporting my position was collected between June 2011 and September 2012 on site at the CuriousWorks office, and online.

CuriousWorks' suite of programs are designed around the idea that the community arts sector has not come to terms with its own power and that it needs to shed its "underdog approach to cultural production" (Working With Communities: Artists in Conversation, Shathki Sivanathan 2011). From this premise, the company aspires to execute a program of activities that "permanently and subtly affects the systems of cultural production in Australia

to benefit all Australians" (*CuriousWorks Annual Report* 2009). This objective manifests as conceptually rigorous, technically interesting processes that emerge in the liminal spaces of its creative arts, community, and mentoring operations. CuriousWorks apply people centred approaches to cultural development that acknowledged the needs and values of individuals within their geographically bounded communities, as well as online, where networked individuals are situated among multiple communities. CuriousWorks acknowledges that the internet is facilitating fundamental societal shifts, requiring the reinvention of artistic and community practices from the foundation up. The company sees this as a rare opportunity – particularly for those who are interested in sharing and distributing power – as institutions are taking their time to adapt to emergent network culture paradigms.

From its starting point as a loose collection of arts practitioners working with participatory methods in a grassroots context CuriousWorks has evolved to become an agile company whose ethos is grounded in philosophies associated with community arts and cultural development. Depending on the operations of the day CuriousWorks can be described as an arts company, a media production company, a community arts organisation, informal educators, a technology consultancy, and a social enterprise.

CuriousWorks comprises of four full-time staff: director Shakthi Sivanathan, head educator Elias Nohra, educator and designer Mark Taylor, and general manager Vanessa Smith. It has a board consisting of six people and maintains a network of contractors and contributors. The company is based in an office in

Western Sydney at Liverpool's Casula Powerhouse but also operates in Melbourne, Perth, and parts of Western Australia.

Many of my reflections are based on the opinions of four key actors. I acknowledge that this approach has limitations but maintain that my findings have integrity, as using CuriousWorks as an exploratory site has enabled me to test, translate, and gather responses to my theoretical ideas. This type of investigation would have proved difficult with practitioners who were not already materially engaged with hardware and software networks. The following chapter offers insights in to current practices of appropriate technology to expand the field's philosophy of sustainability to better accommodate internet-based cultural production.

4.2 Company Background and Operational Context

Storytelling practices are considered the major focus of CuriousWorks' operations, but the company identifies media arts and internet practices as integral to this activity. This networked approach to storytelling permeates their rather broad service offering: a *Community Program,* that nurtures grassroots creative media making capacities; a *Cultural Leaders Program*, that develops these capacities more deeply; an *Enterprise Program*, that mentors cultural leaders to become full-time media-makers; an *Arts Program*, that develops and stages multi-platform performances and events; and, a *Training Program,* that offers digital and networked media skills training for non-profits and non-government organisations. Although it is not promoted in their marketing

collateral, CuriousWorks also provides media production services that focus on quality video for web delivery.

At the heart of its work is the notion of curiosity, a motivating factor it applies across creative disciplines such as theatre, film, music, visual arts and online digital art (Job Advertisement: CuriousWorks General Manager 2012). However the company draws energy and ideas from a wide variety of activities and contexts including the open source community, processes of agile software development, narrative therapy, user-centred design, Hindu philosophy, and site specific hybrid art forms such as poetic fiction, bharatanatyam[9], parkour[10], and contemporary dance (Working With Communities: Artists in Conversation, Shathki Sivanathan 2011). CuriousWorks' diverse influences have helped it define, reconfigure, and redefine itself since it became a company in 2008.

CuriousWorks situate themselves as part of the *social economy*: "the individuals and groups who work with grassroots society such as schools, local government, community artists, community media, health care providers, and social work organisations" (personal communication, Shakthi Sivanathan, September 2012). It uses this term to bring the words social and economy together, to situate social programs in an economic context (personal communication, Shakthi Sivanathan, September 2012). CuriousWorks find 'social economy' more helpful than the term 'third sector' as it includes local government.

[9] Bharatanatyam is a traditional Indian dance form.

[10] Parkour is a physical discipline that involves moving through, and in the process, subverting urban environments.

The *Migrant Project* (2005) – a series of performances, screenings, and conferences celebrating the cultural and artistic ancestries of Sydney – established CuriousWorks as a cultural organisation. Run primarily on a voluntary basis in its first three years, CuriousWorks was based in the living rooms of various share houses (CuriousWorks Company Mission and History 2010). It started publicly referring to its operations as community arts in 2006, publishing a video on its website in September 2007 describing the various community arts projects it had worked on. These included a project in Liverpool with the Gandangara Aboriginal Land Council; video workshops with Villawood Koori Kids; graphic novel workshops in Parramatta; a partnership with Shopfront Theatre in the St. Georges region; and, an incubation program for young artists who had ideas about linking digital media to community building (2006-2007 in 2 mins! 2007).

CuriousWorks attracted increased support in the way of funding from organisations such as the Australia Council and Vodafone Australia in 2007. It secured the *Vodafone World of Difference* grant allowing it to engage new media designer Peter Cossey for one year. He helped the organisation design a model for building and sustaining media capacity in so called marginalised communities using "emerging technologies" (CuriousWorks Company Mission and History 2010). Peter helped expose the company to new opportunities afforded by the software and hardware mediating digital creativity. He also led the design and implementation of CuriousWorks' first large-scale online community project *All Around You* (AAY): a "safe social media portal where people can connect with each other and share stories, knowledge and values from

opposite sides of the continent" (Job Advertisement: CuriousWorks General Manager 2012). Participants in CuriousWorks' Liverpool (NSW) and Roebourne (WA) projects were the first to use the AAY network in 2007. It became a public platform in 2008. The design and build of AAY was a reflexive process and the platform continues to be iteratively developed today.

In its first year as a company CuriousWorks enjoyed an annual turnover of just under $180,000, three times more than they had generated since beginning their operations. By the end of the year it had built a strong foundation as a company and recognised an objective to "solidify programs and partnerships and clear the path for a sustainable, long-term future" (*CuriousWorks Annual Report* 2008). Arts projects the company produced in that same year included the feature-length This City is a Body, a film and DVD based on *The Migrant Project*. Shakthi Sivanathan also began work on an "invisible outdoor performance that utilised surveillance cameras in Burwood park" (Lovegeek Zine: Interview with Shakthi Sivanathan 2008): a display of techno-pragmatism that combined site specificity with an unexpected affordance of digitally networked infrastructure.

The following year saw CuriousWorks set up flexible and robust systems with the objective of creating a "sustainable, cutting-edge institution" (*CuriousWorks Annual Report* 2009). This was also a year that saw some of the company's long-term projects wind up. The Migrant Project came to a close, and the company wrapped up a 3-year project with Miller Technology High School and Casula Powerhouse. It said farewell to collaborator Peter Cossey and nurtured a new partnership with Country Arts WA (Western Australia). This new

partnership, supported by BHP Billiton Ore[11] saw the start of a project in the Pilbara region of Western Australia (*CuriousWorks Annual Report* 2009).

CuriousWorks' reputation as an innovative organisation began exponentially building in 2010. The company was invited to present at various conferences and events including guest lectures at Macquarie University and the School for Social Entrepreneurs in Sydney (*CuriousWorks Annual Report* 2010). It was also selected as one of ten finalists for the *Macquarie Group Foundation Social Innovation Award*, a national award that recognises and rewards organisations who are meeting social needs in the Australian community by offering inventive solutions (*CuriousWorks Annual Report* 2010).

Its projects in the Pilbara continued in 2010 where it worked to build digital media capabilities in three schools in the town of Newman. *Neighbourhood Stories*, a collaboration with Penrith City Council was also rolled out, as was the *Stories Project*, an initiative that engaged young storytellers from Western Sydney and the Western Desert in a program to create "a living collection of untold stories" (The Stories Project: About 2010). Both Neighbourhood Stories and the Stories Project had an online emphasis, so that stories could form part of *ad hoc*, digitally distributed networks. During the same year CuriousWorks ramped up its new media training program which focused on video sharing and web skills (*CuriousWorks Annual Report* 2010). It also consolidated its 'Film in Schools' service offering with *Digitalogic*, a model that was rolled out in five schools in Liverpool, a suburb of Western Sydney. CuriousWorks also

[11] BHP Billiton Ore is a multinational mining company with multiple operations in Australia.

welcomed Eleanor Winkler as Head Producer and Operations Manager in 2010, while collaborator Naomi Bower moved on from the company.

CuriousWorks launched its online *Toolkit* in 2010. This "free digital media resource for media makers and communities" (*CuriousWorks Annual Report* 2010) is divided into three sections: *strategy*, a collection of articles that guide the planning and evaluation of community projects; *workshops*, a repository of activity ideas for community projects; and, *knowledge base*, a collection of tutorials, case studies, and technical guides (CuriousWorks Toolkit 2011). The toolkit is published under the Creative Commons Attribution Share-Alike license for other practitioners to appropriate and modify.

CuriousWorks' professional arts offerings for 2010 included the development stage of the *Lanka Project,* a creative initiative centred around the Sri Lankan-Australian community, and a live show at Parramasala[12] called *Leaving Lanka*. The show attempted to relay a version of events rarely associated with becoming a refugee: the "intimacy, dignity and compromise that surrounds the decision to flee" (Leaving Lanka 2010). Shakthi Sivanathan was also invited to participate in *On The Edge*, a project that gathered Australian new media artists to devise a live show that was staged in Beijing. The project formed part of The Year of Australian Culture in China[13]. During this residency, Shakthi developed an application that used a Wii[14] remote to let people VJ[15] as they danced: another display of experimental, technological bricolage.

[12] Parramasala is the name of the Parramatta-based Australian Festival of South Asian Arts

[13] The Year of Australian Culture in China http://ote.rtek.com.au/

[14] Wii is a digital gaming platform developed by Nintendo.

CuriousWorks' full spectrum of services was engaged during 2011. The *Lanka Project* delivered a community program as well as its first arts outcome, *The Other Journey*, presented as part of Parramasala 2011. New staff recruit Mark Taylor traveled to Burringurrah Remote Aboriginal Community to assess the digital needs of the community and to respond with capacity building workshops (*CuriousWorks Annual Report* 2011). Shakthi Sivanathan began work on the *Dam(n) Project*, a large-scale interdisciplinary arts project that aimed to connect Australian and Indian communities around the theme of water security (*CuriousWorks Annual Report* 2011). Year two of *The Stories Project* saw members of the Urban Stories Crew form the social enterprise Matta Media, and Curtis Taylor from the Desert Crew continue to produce stories from and about Australia's Western Desert. CuriousWorks were also commissioned by Ageing, Disability and Home Care – a part of the NSW Department of Family and Community Services – to develop a video resource to "showcase best practice in Person Centred service delivery" in the disability sector (*CuriousWorks Annual Report* 2011). The company worked to develop stories with young people who were at varying stages of the *Transition To Work* scheme.

CuriousWorks also continued to build on their reputation as technology innovators securing Australia Council *Geeks in Residence* funding to mentor the staff of the Outback Theatre for Young People (OTYP) and help them produce *Secret Places: The Connections Project*. It worked with school students from Griffith in regional NSW, and Fairfield in Western Sydney to produce "video exchanges" that contributed to the development of live shows that were

[15] VJ is the abbreviation of video jockey.

performed simultaneously in these different geographic locations (Outback Theatre for Young People: Geeks in Residence 2012).

During the 2011 end of year planning meetings the four core staff members discussed what they felt was unique about the previous year's operations. Elias Nohra cited *Living Streams* as being unique because they were in new territory with new technologies; Mark Taylor earmarked the shifting perceptions of the utility of social media he had witnessed in his community projects, whereby young people were "cultivating it as an outlet for creative expression rather than the cyber extension of the school yard". Eleanor Winkler and Shakthi Sivanathan both described the development of the CuriousWorks' "holistic model" as the unique aspect of 2011. They use this term to describe when clients utlilised the full spectrum of CuriousWorks' offerings. For example, a community arts project for a local council that includes working with young people, training the staff within council, working with all the participants to create a professional arts production, and implementing a promotional media campaign. The preference for this way of working is linked to developing, implementing, and evaluating, appropriate social, cultural, and technological approaches.

The company's Community Program is a methodology for empowering under-represented and disenfranchised groups to become active creative media makers. The program's structure relies heavily on workshops. Activities are generally very hands on. Participants are encouraged to use cameras, sound gear, editing software, and internet-based media-sharing platforms to make and share media. CuriousWorks maintain that the best way to gather stories is in a workshop

setting (personal correspondence, Elias Nohra, August 2011). This means that on-the-ground workshops are currently its first point of contact with participants. Creative outcomes of the community program often include a site-specific element, such as public screenings of video stories. In the last couple of years, Film in Schools – a term they use internally to describe digital video projects run within a school – has been the model they have applied most extensively (personal correspondence, Elias Nohra, August 2011).

When CuriousWorks extend its community program to provide further mentoring for a proportion of participants it is referred to as their Cultural Leaders Program. This initiative focuses on nurturing creative media making skills so that participants can "powerfully and sustainably represent their community and possibly influence their local public institutions as a result" (CuriousWorks Public Info 2012, 3). The focus of this program is on creating "excellent art for the consumption of mainstream Australia" *(Community Partnerships Opinion Piece 2011),* this means that projects strive for good production values through the use of high-end production equipment and techniques.

The Enterprise Program is what emerges from the Cultural Leaders Program if participants decide to develop their capacities further. It was commissioned as an attempt to break the mould of creative outcomes only being consumed by people from the arts and community sector. CuriousWorks mentors participants in their quest to make creative media production their vocation. Participants learn to maintain social responsibility in their practices and operations so that they can

continue to ethically make media that represents their communities. They are paid for their time. CuriousWorks teach the participants a variety of skills: to tighten workflows, produce video content to a professional standard, write funding applications, and to understand the nuanced ethics of community arts philosophies. Building production skills and ethical awareness, with an injection of social entrepreneurial spirit creates a solid foundation for the fledgling film crews. CuriousWorks hopes this mentoring process will nurture new community arts facilitators who value high-end, high-concept creative making. They describe it as "a new kind of professional pathway that bridges small business and charity, the creative industries and art; the same bridge that CuriousWorks itself forms through its existence" (personal correspondence, Shakthi Sivanathan, September 2012).

CuriousWorks' Training Program involves the design and implementation of individually tailored digital and networked media training services. They are pitched at non-government organisations, non-profit, and arts companies. During 2010 and 2011, CuriousWorks found they were being approached to run training around social media platforms such as Facebook, and the free blogging platform WordPress. The Training Program is a service the company recently decided not to promote very heavily, because staff were enjoying carrying out the company's other programs more, and because of the program's large overheads (personal correspondence, Elias Nohra, September 2012).

4.3 CuriousWorks' Ethical Framework

It was my observation that the practitioners working for CuriousWorks are ethical pragmatists. They operate reflexively extracting theory from practice then applying it back to practice. This philosophy is evident in the company's ethos of curious inquiry. The ethical logic that drives CuriousWorks' operations can be interpreted through the following logical framework matrix: where *activities* produce *outcomes*, and outcomes deliver *outputs* that ideally contribute to an overarching *goal*:

• GOAL, a diverse Australian media culture;

• OUPUTS, distributed alternative narratives;

• OUTCOMES, new storytelling and media-making capabilities;

• ACTIVITIES, actions designed to render the community artist redundant.

4.4.1 Goal: a diverse Australian media culture

CuriousWorks' overarching ethical goal is to empower disenfranchised Australians to become creative makers so that they may contribute to the production and consumption of Australian culture. This aspiration is grounded in the idea that a more participatory culture is a more distributed culture, and therefore a more diverse culture. This goal maps to the community arts ethic of cultural democracy, and is firmly situated in digital culture.

CuriousWorks promote the idea that digital communications networks are facilitating "technological breakthroughs that give us the chance to come to terms with the changing face of cultural diversity" in Australia (personal correspondence, Shakthi Sivanathan, September 2012). The concept, that kick-

started CuriousWorks in 2005 and continues to provide its ongoing momentum, is the idea that the internet offers "the first real opportunity for people other than the rich and powerful to dominate the way we communicate" (personal correspondence, Shakthi Sivanathan, September 2012). This narrative can be found driving CuriousWorks' community projects, its art projects, and all its operations in between.

4.4.2 Outputs: distributed alternative narratives

CuriousWorks use the phrase "alternative narratives" to describe the sorts of stories they nurture in their projects. This approach leverages the affordances of the internet to make and distribute stories of hope in order to shape positive messages, to reshape negative stereotypes, and to develop a "deeper narrative of Australian culture" (personal correspondence, Elias Nohra, September 2012). Their practices also respond to the idea that one of the biggest barriers to breaking cycles of disadvantage is feeling voiceless (Community Partnerships Opinion Piece 2011).

The distribution of alternative narratives to help shift negative cultural perceptions happens across multiple platforms, but there is always an online component. The model involves developing the "best systems possible" to help other people tell stories where the "key vessel is the online network" (personal correspondence, Elias Nohra, September 2012). This pragmatic focus on the best online systems possible indicates the company's dedication to the idea of developing internet technologies that are appropriate to community and individual contexts. The company makes and facilitates digital stories but

considers its methods and creative outputs to differ from those associated with Digital Storytelling (DST). They don't align their practices with DST as CuriousWorks practitioners are actively involved in the development of the stories, and they often place an emphasis on high production values (personal correspondence, Shakthi Sivanathan, July 2011).

The strategy of using stories of hope can be seen in the CuriousWorks-led project, *Villawood Mums*, a documentary made during *The Stories Project.* The film conveyed the positive stories of women who had been refugees in the Villawood Migrant Hostel, the predecessor of the Villawood Immigration Detention Centre[16]. The airing of these stories offered subtle social commentary on the stark differences between the two facilities. The video was distributed widely over the Internet, was featured by Australia's SBS Television, and was included in the Australian Commonwealth's Department of Immigration newsletter (personal correspondence, Guido Gonzales, August 2011).

Another anecdote that supports the idea that CuriousWorks nurture stories of hope, revealed itself during a company brainstorm session. Staff were bandying about ideas for Andrew Denton's *Disfellowship*, a seed grant to support the development of "the sort of idea that makes your family disown you" (Burrowes 2011). The group talked about pitching a web series with high production values that gave a different perspective of Western Sydney. They described it as, "Like Secret Life of Us[17] without the inner city hipsters. Like Neighbours[18], but ethnic,

[16] The Villawood Immigration Detention Centre is an Australian detention facility that has faced accusations of human rights abuses.

[17] The Secret Life of Us is an Australian television drama.

and good", with "an Arab in the lead role". They discussed how fiction can have a powerful effect on social change, proposing that, "the gay guy in Glee[19] is doing more for gay rights in the US than documentaries as the portrayal is not politically correct or stereotypical" (personal correspondence, CuriousWorks, July 2011). CuriousWorks nurture these stories of hope as a response to the mis-representation of certain communities in the mainstream media. The stories work to provide contrasting narratives that offer positive messages about these communities and cultures.

By leveraging the affordances of networked technologies, CuriousWorks help disenfranchised individuals and groups become the translators, mediators and disseminators of cultural messages. This is a subversive process that challenges the implicit social values and political interests permeating mass communication networks. CuriousWorks' distributed storytelling activities can be said to contribute to the "reprogramming" of communications networks (Castells 2009). This happens because the stories they make, and help make, evoke messages of hope that challenge negative messages that are propagated by the mainstream media.

4.4.3 Outcomes: new storytelling and media-making capabilities

When CuriousWorks staff practice in a community context, processes are devised that place an emphasis on "finding the story" (personal correspondence, Elias Nohra, July 2011). This method underpins CuriousWorks' creative and

[18] Neighbours is an Australian television drama.

[19] Glee is a US television drama.

digital media capacity building activities. It designs programs that help participants establish the stories they are interested in telling, then uses this as a point of departure to nurture digital and networked media skills. In its more long-term projects it aspires to become positively redundant: when new media workflows become integrated into the everyday activities of communities, consolidating the community's digital media infrastructure (Lovegeek Zine: Interview with Shakthi Sivanathan 2008).

4.4.4 Activities: actions designed to render the community artist redundant

The uneven distribution of cultural power connects CuriousWorks' ethics to their practices, creating their foundational praxis (personal correspondence, Shakthi Sivanathan, September 2012). It is for this reason that the company designs activities to render themselves "redundant". This is the way the company articulates the community arts notion of sustainability. They believe if they make themselves redundant, as teachers, mentors, and providers of resources, that their work has successfully sustained the abilities of their project participants. CuriousWorks deploy culturally and technologically appropriate methods in their goal to become redundant.

The company's starting point is that it does not just try to add an online component to whatever other practices they are implementing. Rather, it helps develop digital media infrastructure for projects. To help communities build and maintain a project's digital media infrastructure, it develops "vital outcomes" that include: placing video manuals on the desktops of community computers; locking tutorials so they cannot be deleted; creating posters that direct people to

video tutorials; running professional development sessions with teachers; supplying teachers with printed tutorials; creating camera maintenance instructions; and, producing DVD archives containing tutorials, videos, and PDFs (chattime, staff meeting notes, June 2012). These activities go towards making individual projects more sustainable, and contribute to making CuriousWorks redundant in the community.

Projects are tailored specifically to communities, the majority of which are situated in Western Sydney. This large urban area is considered the most culturally diverse in Australia, where one-fifth of the country's humanitarian immigrants settle each year (Pike 2011). Working with these individuals and groups brings culturally specific challenges and opportunities. This ranges from the type of stories that are told to the ways technology is incorporated in to projects.

CuriousWorks' redundancy approaches have made lasting impressions on its participants and clients. One of their community collaborators from Roeburn in the Western Desert had this to say about the company:

> We have many visitors come here, all with projects, investments, and ideas for our future…all the grand plans. But once in a while we get visitors who contribute some happiness and joy, and add to the social fabric that is already here. When that happens the community responds with precious gifts, of knowledge, of history – and most importantly we make a connection with our visitors (Community Partnerships Opinion Piece 2011).

Other strategies the company uses to make themselves redundant include: an equal focus on the individual participant's journey and the quality of their artwork; having a flexible project framework that can respond to the learning and development needs of participants; using technology that is available in the community; identifying strengths in individuals and communities and further developing those strengths; ensuring that participants retain the copyright of their work; that Indigenous Cultural Intellectual Property (ICIP) protocols are followed; and, identifying future projects and leadership opportunities (Community Partnerships Opinion Piece 2011).

4.5 CuriousWorks' Evaluation Processes and Funding Structure

For projects that hope to receive financial and in-kind support within the social economy, grant funding and evaluation processes are paramount. Grant funding can influence the types of services an organisation pushes, and how they stage their projects. The rigour of an organisation's evaluation processes can also determine which grants are within reach. CuriousWorks has a multi-faceted funding structure due to its varied operations. Currently its funding is project-based, meaning it receives funding from various sources for specific projects. The company's main funders are federal and state government arts bodies, local councils, and schools.

CuriousWorks is funded because there is a demand for its services and a respect for the organisation's operations. The Australia Council holds it in high regard because it combines high production values with innovative, networked

approaches to community arts and cultural development. This is evident in the company's recent selection as a funded member of the Key Producers Network. The Australia Council sees CuriousWorks' internet practices aligning with some of their new initiatives, specifically relating to the National Broadband Network (NBN) (chattime, staff meeting notes, July 2012). Local councils engage the company because of its robust ethical framework and its redundancy aspiration: the desire to become redundant as trainers. Schools appoint CuriousWorks because of its aptitude with young people, its focus on technology and storytelling, and ability to inject creativity and fun in to learning. Government departments and industry employ the company because of the provision of high quality media production services that are reasonably priced. Organisations who work with CuriousWorks also come to recognise the company's ability to build relationships and form partnerships.

CuriousWorks' have four evaluation processes. They gather information from participants and partners, they analyse the impact of projects, they create multimedia narratives that convey the impact to prospective clients and funders, and then they fold learned insights in to the planning of future projects. The company admits they have not always been rigorous with these processes, however staff have commented that they are committed to "building evaluation, and celebration, in to their workflows in the future" (personal correspondence, Shakthi Sivanathan, August 2011).

CuriousWorks gathers information via surveys and questionnaires when projects wrap up; they also rely heavily on the video documentation of processes to

illustrate the creative outcomes. When the company analyses a project evaluation is often based on gut feelings of what did and didn't seem to work. The company often talked about how it needed to develop more robust methods of analysis, mainly because it was a requirement of large philanthropic grants (personal correspondence, Elias Nohra, August 2011).

Documentation is the better oiled of the four evaluation exercises, which is fortunate for CuriousWorks as making the impact of projects clear to stakeholders is a crucial skill of the contemporary community arts worker (Hadley and Gattenhof 2011). The company's web-based documentation is extensive, as it prioritises online promotions of its content and services and uses online networks to improve documentation workflows. For instance, it shifted the structure of its annual report from a static report published online, to a collection of blog posts that contain videos and text associated with a particular year.

CuriousWorks' broad service offering has enabled it to secure a wide variety of income from government agencies and private companies. Its funders and partners have included: the Australian Government through the Australia Council for the Arts, NSW Trade & Investment, Country Arts WA, Penrith City Council, the Powerhouse Museum, Kanyirninpa Jukurrpa, the Maritime Museum, and the NSW Department of Family and Community Services. While funds from these agencies are welcomed by CuriousWorks a variety of boundaries are embedded in each contractual arrangement. These limitations and agendas can significantly affect how practitioners formulate what constitutes

appropriate technology, which impacts individual community arts projects and their participants.

This idea of boundaries and appropriateness is particularly acute when the move by big corporates to build social responsibility programs is considered. In 2010 ten of Australia's largest public companies donated $513 million to community initiatives (Schofield 2012). At face value this might seem like an opportunity for the sector but a review by New Matilda[20] found that "most companies undertake their community investment activities without a strong framework, strategy or tools to measure the performance, impact or the effectiveness of their approach" (Schofield 2012). The report found that "only a handful of the sampled companies published, had undertaken to develop a community investment strategy; while company motivation statements veered along a spectrum from altruistic through to business-focused, with most sitting somewhere in the middle" (Schofield 2012).

Even though CuriousWorks have been relatively good at securing grants, stress relating to the company's financial health seemed to be quite pervasive among employees. This financially precarious status saw a consistent turn to free software for use in their company operations as well as their community and arts projects. New sets of boundaries relating to appropriate technology are formed with each turn to free software. The computational activities of platforms, the design of operating systems, and norms associated with wireless

[20] New Matilda was an independent Australian website of news, analysis and satire.

communications are but a few of the emergent factors impacting assessments of digitally networked appropriate technology.

During my time with CuriousWorks conversations around the company's financial future often turned to the Australia Council Key Producers initiative as the company was working towards securing this six-year Community Partnerships grant. The application was a two-stage process and demanded a business plan for a six-year period. CuriousWorks were awarded Key Producer status in May 2013. The company also has plans to create an online creative learning network called *Curious Classroom*, and are considering a subscription model to make it financially sustainable. This concept is being developed with a keen eye on the progress of Australia's NBN.

CuriousWorks attributes its ability to stay afloat financially to its diverse service offering. As the company's ethical framework has evolved its programs have diversified, and this has had a direct and positive impact on its ability to sustain itself financially. Even though they have survived five years of operations – beyond the lifespan of the majority of social enterprises – their project-based funding and heavy reliance on grants to run their holistic programs takes a toll on staff members. The company's focus on securing the six-year Key Producers grant, and their desire to implement robust evaluation methods, is its attempt to steady the ship so it may continue to do the work of "diversifying Australia's narrative" (chattime, staff meeting notes, January 2012). It remains to be seen how a dramatic change in funding structure might change the way CuriousWorks operate.

4.6 CuriousWorks as Techno-Pragmatists

CuriousWorks pragmatic practices have gained them a reputation for being innovative with digital media technology. This status has built up over time and is based on the work CuriousWorks have done, not on the way they have chosen to promote their services. Their status as pioneering technological innovators lies in their ability to assess and assemble different technologies, not because they have mastered code, or networked systems. They have become techno-pragmatists through tinkering with different software and hardware in their personal artistic practices and projects; and, through engaging in social learning cultures that guide the assembly of different technologies.

The company's reputation for having vision and for doing innovative work around "digital community building" was reinforced when Shakthi Sivanathan won the 2011 Kirk Robson Award. This $10,000 prize is awarded by the Australia Council to recognise leadership among young community arts and culture practitioners. The announcement of the award on the Australia Council's website described CuriousWorks as an "agile" company, who were "building creative institutions for the next generation" (Kirk Robson Award for Digital Community Builder 2011). Shakthi Sivanathan's reported response to winning the award was the following:

> It's good to see the work of independent companies recognised with the Community Partnerships awards. I don't feel like we have many peers. There is space for more youth-led bottom-up companies like us (Kirk Robson Award for Digital Community Builder 2011).

The positioning of CuriousWorks' practitioners as innovative is not because they know all the ins and outs of media technology. They may know more than many in the community arts field, but their advantage lies in their pragmatic approach to assessing and assembling technologies: their techno-pragmatism (Davidson 2011). Their pioneering spirit is their baseline, which sees them tinkering with technology in an attempt to understand its visible and hidden affordances. As the company builds an awareness of technologies, they develop capabilities to manipulate, combine, and assemble collections of different technologies for the purposes of doing a particular job. This pragmatic process is why they are considered innovative.

The foundation of the company's innovative practices lies in their pragmatic approaches to researching, experimenting, prototyping, and implementing technology. They inject a balance between what they know, what they want to know, and what feel they should know, with regards to developing appropriate technology for their projects. They understand that contemporary media ecologies are complex, multi-layered, and emergent, and therefore impossible to master. This is evident in Shakthi Sivanathan's standard issue "rant" that he delivers to CuriousWorks staff where he situates technology as "neither a force for good nor evil" (Working With Communities: Artists in Conversation, Shathki Sivanathan 2011). His position involves the idea that when the mainstream media reports polarised views about technology it does not help "our understanding of what technology is and the role it plays in our lives" (Working With Communities: Artists in Conversation, Shathki Sivanathan 2011).

CuriousWorks' techno-pragmatism was revealed during the company's involvement in the *Kinect Lab* at the Casula Powerhouse in Western Sydney. The initiative enabled CuriousWorks to research and develop "open source technologies to be used in community and contemporary arts" (*CuriousWorks Annual Report* 2008). CuriousWorks spent twenty-one days developing a number of "portable, accessible, affordable, open source technologies" including an infrared spray can that used a Wii[21] gaming remote to turn a data projection into an interactive wall for virtual spray painting. Other technologies that were assembled during the lab were a touch screen interface that triggers rich media files in real-time; embeddable circuits that are sewn in to clothing that trigger audio or visuals based on bodily movements; a low cost DIY portable speaker system; and, a pen that mixes and post-produces audio and visuals with gestural movements. The infrared spray can technology assembly was inspired by a YouTube tutorial created by Johnny Woo, whose video described how to make an interactive whiteboard with a Wii remote.

CuriousWorks maintain that sharing their experiences was an important aspect of the Kinect Lab. One mode of exchange they chose were video diaries, where the artists captured short discussions of their daily activities (Sivanathan 2008). They also made 'how to' videos describing the process of making the infrared spray can, that they uploaded to YouTube and other media sharing networks. The Kinect Lab was considered so successful that plans were made to make it an annual component of the CuriousWorks program.

[21] Wii is a digital gaming platform developed by Nintendo.

Soon after the Kinect Lab CuriousWorks worked with students at Miller Technology High School in Western Sydney to build personalised infrared spray cans and sticky speaker systems. The infrared spray cans were developed to trigger a range of visuals including images drawn by the students in workshops. The sticky speaker systems were assembled from cardboard boxes and carried a portable sound player and amp. These technologies were exhibited at the Casula Powerhouse in 2009. CuriousWorks then took theses open source technology assembly workshops to Roebourne in Western Australia. The company developed infrared spray cans and sticky speaker with young people from the region, leaving the technologies with teacher in the community so that "they could continue using the devices as they wished" (Sivanathan 2008).

CuriousWorks Arts Programs always begin with a research and development stage, which leads to a series of creative activities that fit the findings of the research. These new insights are fed back in to community projects (Leaving Lanka 2010). The Arts Program creates room for practitioners to develop work outside of the community arts context, which creates conceptual challenges as well as room to tinker with tools and materials. It is therefore not surprising that many of the company's innovative techno-pragmatist approaches are developed in the context of their art projects. The break from working with communities is also important, as practitioners have been known to succumb to burnout.

The concept of technological disruption is one that features heavily in the daily discourses and practices of CuriousWorks. It is considered more of a hope and an opportunity than a negative force affecting creative, communication, and

organisational practices. Shakthi Sivanathan sees technological disruption as an enabler of "power sharing" (personal correspondence, Shakthi Sivanathan, September 2012). CuriousWorks also continually re-evaluates its company narrative to consistently challenge staff members' own perceptions of who the company is, what it does, and why. This provides another indication that the organisation and its practitioners see the value in remaining agile, both in their practices, and their philosophical position.

4.7 Conclusion

This survey of CuriousWorks' internal processes has illustrated how the company approaches the philosophy of appropriate technology. CuriousWorks symbolise a new style of community arts organisation, one that embodies the energy and agility of a startup company embedded in the social economy. They aspire to use contextually appropriate cultural and technological approaches to build digital media capacities among people from diverse cultural and socio-economic backgrounds. They encourage the creation of stories that evoke messages of hope to combat negative cultural stereotypes and they devise strategies for these stories to be disseminated using the internet. They do this because they want Australian digital culture to fully represent the country's diverse cultural makeup and they feel that this will be better achieved if culture making is a distributed affair.

CuriousWorks' major strengths are its diverse skill base, its focus on experimentation and play, and its maintenance of agile practices and processes. These self-imposed parameters trigger innovative methods and approaches to

projects that are underpinned by pragmatist philosophies. This positions the company to leverage the affordances of internet technologies and participatory culture to assemble technologies that they hope will render them redundant at the end of their projects.

CuriousWorks make stories and help other people to make stories. As digital communications networks play a large role in these processes, they can be considered the material stuff of the stories. The various facets of the network can then be thought of as their artistic materials. Where previous organisations have focused on the tools and materials associated with dance, theatre, or visual arts, CuriousWorks are drawn to the tools and materials associated with the internet.

By establishing that the material qualities of the internet are a concern of community artists, the following question became paramount: how does CuriousWorks come to understand the properties of material networks? The following chapter will explore this question through an in-depth analysis of the internet practices of CuriousWorks. It does this to reveal the methods the company employs to position themselves as network agents, to increase the probability that they might design and develop useful, and appropriate technological solutions in their art and community art projects.

5. Investigating Appropriate Internet Technology: A Review of CuriousWorks' Internet Practices

5.1 Introduction

By focusing on the networked practices of CuriousWorks this chapter offers an investigation of the challenges and opportunities associated with assembling appropriate internet technology. I have chosen this approach because it reinforces the idea that community engagement has irrevocably shifted, revealing issues associated with retrofitting legacy community arts ethics to digitally networked paradigms. The problematic nature of applying 'offline' ethics to 'online' practices is highlighted and flagged as a major issue for the sector, adding further weight to the call for an articulation of appropriate internet technology as separate from previous formulations of appropriate technology.

Data – collected through participant observation, interviews, and from gathering traces of the company's online activities – was coded and analysed to reveal the multiple ways CuriousWorks use the internet to support project objectives and manage operations. The following five categories were then identified as best to illustrate how the company navigates emergent relationships/tensions between software, hardware, and other network actors:

1. Developing online communities;
2. Networked publishing activities;
3. Making digital telematic art;
4. Practicing knowledge brokering; and,
5. Assembling internal digital infrastructure.

My observations of the company's internet practices took place in their office and online. This data gathering approach lends further evidence of the ways in which community arts practice is changing, in that it does not have to be observed in the geographic place in which a project is situated. It is an illustration of how internet communications have become constitutive of practice.

CuriousWorks is engaging with the material stuff of the internet. The company comes to understand this materiality through reflexive engagement with software, hardware, and the momentums that shape internet use and participation. A way to think about the materiality of the internet is to consider smart phones. Imagine that such a device is being used as the main tool for capturing photographic images in a community arts project. The phone will also be used to embed geographic metadata in the photos, upload them to a media-sharing site, and share comments among participants. In this instance, the community artist must be literate in the use of different mobile operating systems, the platforms being used to produce and host the digital photographs, and the various layers of network structures that connect the mobile device with the internet. These material considerations are just some of the emergent concerns for the community artist working closely with networks.

Becoming familiar with the material qualities of internet technologies might not seem the most accessible of goals. The process involves spending a lot of time with software, and the complexities of software code and protocols are enough to prevent many people from expecting to develop any understanding at all.

CuriousWorks combat this through tinkering with software and hardware. These processes of experimentation involve tapping in to social learning platforms that offer ideas on how to get more from network materials. This exposure to network materials consequently has an impact on the ways CuriousWorks critically assess internet technologies for use in their projects.

5.2 Data Coding

Employing a Grounded Theory approach (Blumer 1969, Glaser 1978, Charmaz 2006), I carried out six coding exercises to categorise CuriousWorks' internet practices:

1. Identification of guiding interests;
2. Mapping literature and examples of practice to guiding interests;
3. Identification of major sensitizing concepts;
4. Initial coding;
5. Focused coding; and,
6. Theoretical coding.

I began by mapping the themes, or "guiding interests" (Charmaz 2006, 17), that had influenced my investigation and brought me to my research site. This process revealed my interest in the emergent modes of cultural production and organisational reconfiguration that were being enabled by the internet. It also highlighted my tacit knowledge of the community arts field. I added colour codes to my guiding interests to create initial, loose groupings (see Appendix 1,

p274). I then rearranged the ideas into a logical matrix framework to differentiate between goals, purpose, outputs, and activities (see Appendix 1, p275).

I then began the process of cross-referencing literature with practical examples relating to these themes. Connections emerged between concepts, related concepts, theory, and practice, which led to a further categorisation, identifying the major "sensitizing concepts" (Blumer 1969) (see Appendix 1, p276). "Initial coding" (Charmaz 2006) followed this exercise: a process of categorising observations from the field in to themes that emerged from the data (see Appendix 1, p276). I then undertook a process of "focused coding" (Charmaz 2006, 42), where several of the "most useful" initial codes were used to test my field data (see Appendix 1, p276). "Theoretical coding" (see Appendix 1, p277) was my final coding activity, where codes that related to each other were combined to develop a hypothesis (Charmaz 2006, 63). From this point I was able to arrive at my final taxonomy of CuriousWorks' internet practices:

1. Developing online communities;
2. Networked publishing activities;
3. Making digital telematic art;
4. Practicing knowledge brokering; and,
5. Assembling internal digital infrastructure.

As an exercise in sense making my iterative approach to coding proved fruitful. It helped me systematically categorise and map a wide variety of themes and activities, and to reconcile my own research agenda with the actual practices of my research cohort. Beginning the coding process with a list of 41 guiding

interests felt unwieldy, but on reflection, many of those themes are present in the discussions that surround the final taxonomy. My final theoretical coding exercise firmly established CuriousWorks as an appropriate case study for the investigation of critical – and therefore appropriate – internet practices in the community arts context.

5.3 Developing Online Communities

CuriousWorks have built and facilitated online communities in various forms to achieve different objectives. Their initiatives have aimed to extend social ties, support place making, and nurture creativity. In this section I focus on one instance of online community making initiated by CuriousWorks in 2007: the media sharing network *All Around You* (AAY). I identified AAY as an appropriate site for investigation as it was developed with *Ning* – a platform for creating social websites – software I had used in three community arts projects in 2008[22] with varied success. The online communities I developed were project-specific, so I was struck by CuriousWorks' attempt to make AAY an ongoing social-media sharing network that spanned different communities and geographic places. I was curious as to whether the AAY network was making *new* communities as participants from different projects connected via the act of sharing digital media.

[22] I used the Ning social media-sharing platform in the following community projects: an *Artists in Schools* project with Mordialloc High School (Melbourne); the Wired Lab (regional New South Wales); and the Gift of Light (Melbourne).

AAY has had various taglines attached to it, including: “an online platform for distributing content by schools and community groups in Australia” (meta descriptor in Google search results); “a home for creative community media” (http://www.allaroundyou.net); “a place for people to share their stories” (http://www.allaroundyou.net); and, “giving those with the fewest opportunities to leverage digital media the opportunity to be its innovators” (http://www.allaroundyou.net).

As a social media sharing network AAY offers members a platform to upload or embed videos, audio, images, and text. Members are users who have signed up and created a profile. Their content appears on their profile page and in the news stream on the front page. The AAY network also offers a forums discussion feature, which functions like a threaded message board, and a ‘groups’ feature that allows clusters of members to form around specific projects, ideas, or events. You must be a member of the network to upload media or to comment on other people’s offerings. The network’s main page also has a call to action to “explore” the “knowledge base”; this links through to the CuriousWorks’ online toolkit, a repository of community arts and media-making resources.

The AAY network was, and to some extent still is considered an experiment. CuriousWorks’ vision for the network was for it to become a platform that would be used by other community artists for skill sharing and support. CuriousWorks branded AAY in a way that separated it from the company’s main online presence for this reason. Other community organisations have posted events or initiatives on AAY, but few have shared media or nurtured

communities around their projects. Shakthi Sivanathan believed this was because "people wanted their own separate networks" (personal correspondence, Shakthi Sivanathan, August 2011).

During my first phase of fieldwork I spent several days observing AAY. At that time the network had thirty members. Most of the AAY groups had been set up in conjunction with CuriousWorks' individual projects but other AAY members also had created groups. They had titles such as, "Cool People!!!!!!!!!!!!!!!:)", "Skaters and Socceroos", "Newman People that Rule!!" and "SPORT GROUP: people that love soccer, tee-ball, swimming, base ball and a lot more" (All Around You: Groups 2011). At one point I came across a video titled "Need more Ideas" by Jayden Leitch Keating. Jayden had previously made two videos titled, "Very First Episode of Jaydens Tutorials Today Levitation" and "How To Do The Moonwalk". In the "Need more Ideas" video, Jayden asks for suggestions from AAY network members for a new video, saying, "I need ideas for Jayden's Tutorials. If you have an idea for a prop you want me to make, or try and make, and see me fail at it, just leave a comment on this video". The comments section below the video reads:

> "Jayden: sorry about the bad quality downloaded it wrong
>
> Ashleigh: k heres a prop try and make a chainsaw hope to see you make it and maybe fail at it!!!:)
>
> Ashleigh: PS who cares about the bad quility I don't!! at least you know how to do all this stuff
>
> Ryan: WHO CARES ABOUT BAD QUALITY!!!!!!!!!!!!
>
> Adam: its not bad quality who cares about that hey make one with action

> and comedy also send me a message and I can come help u out
> Joel: how bout making a freddy cougare glove or mask??????????????????????????"

I found this video and its comments interesting as the young people in the network were self-organising, and they unanimously agreed that production quality was not something they were concerned with in this context. I talked about this with Shakthi Sivanathan and he explained that AAY had "evolved to become more of a kids' space" (personal correspondence, Shakthi Sivanathan, August 2011). CuriousWorks had supported the increased sense of ownership young people were having in relation to the AAY network. They saw it as an unintended and unexpected success of the network – as it had given CuriousWorks a better sense of what the young people valued – but admitted that CuriousWorks staff did not have time to manage it, which was leading to some of the young members "losing steam within the network" (personal correspondence, Shakthi Sivanathan, August 2011).

Elias Nohra told me during an interview that the original success of AAY was that it was an alternative social media tool for kids who were not allowed to use FaceBook:

> We didn't do anything to earn that aside from being with them and signing them up to it, getting them interested in it. Up until a couple of months ago, they regularly checked in and kinda used it. Some things you cannot predict (interview, Elias Nohra, September 2012).

This agile response is rooted in the company's pragmatic approach to technology. It is pragmatism that sees them adjust their expectations of the network based on emergent online community dynamics. CuriousWorks do not steer the development of the network to suit what they themselves value. Rather, through having mechanisms that allow anyone to create a group and upload content they encourage participants to offer artefacts and interactions of their choosing (within the bounds of what the software interface allows).

At different times CuriousWorks toyed with the idea of charging schools a license fee for the AAY service. Their rationale was that many schools blocked access to media sharing sites such as Facebook and YouTube, and so AAY would provide a sanctioned, managed online environment for children to play in. AAY would be put on each schools' IT whitelist[23] to counter network access issues. They surmised that it would be a great way to link people from different places but that "teachers would need to champion the network if it was to be a success". They saw this subscription model as a way to make the network more sustainable allowing for increased technical and community management support. They also recognised that they would need a grant to develop such a network, and that this would mean a shift in focus for the company, from "physical things like going and doing workshops" (personal correspondence with Shakthi Sivanathan, Elias Nohra and Mark Taylor, August 2011).

During a conversation with Shakthi Sivanathan I asked him what he thought the barriers to entry for AAY were. He responded, "Why another network? Why

[23] A whitelist is list of web sites, services, and protocols for network administration purposes.

AAY and not a FaceBook group?" He then asked me what I thought AAY's point of difference was? I told him I thought it had an advantage over large media-sharing platforms because it was Australian, and that the ABC's media sharing platform Pool[24] also had this advantage. He asked, "How is AAY different from Pool?" I offered, "I think the major difference between the two is demographic. ABC Pool's is quite middle class and AAY was designed to support community arts, suggesting it targets more disempowered socio-economic groups" (personal correspondence, Shakthi Sivanathan, August 2011). Although it was something the company discussed on a few occasions they never went ahead with plans to monetise AAY. During my first period of fieldwork CuriousWorks even contemplated the idea of shutting down AAY altogether. By the end of 2011 CuriousWorks' settled on keeping AAY. People were continuing to use it, and by keeping it alive, the company had a ready-made network skunk works – an experimental networked space – for the company to glean insights from, and play with.

It is not surprising that CuriousWorks have had moments of feeling unsure about continuing to service AAY, after all, a great many of the company's community arts participants now use FaceBook for sharing online. Due to FaceBook becoming an existing networked practice of most of its participants, CuriousWorks feel strongly that it must work out how to use the social network appropriately, in the context of community arts. This is a difficult undertaking because not only does FaceBook have a certain hierarchy of knowledge that preferences information that, in Elias Nohra's view is "not important", the social

[24] ABC Pool was decommissioned in May 2013.

network “keeps changing the rules” (personal correspondence, Elias Nohra, September 2012). Elias also queried FaceBook’s appropriateness because CuriousWorks is “not about mass communication in somebody's network, but about deep communication and keeping connected to people (they) work with, outside of physical spaces” (personal correspondence, Elias Nohra, September 2012).

Another reason CuriousWorks feel compelled to use FaceBook is due to a legacy community arts philosophy surrounding geographic place. This ethic stresses the importance of the community artist ‘going in to the community’, to meet participants in their own environment. This has been a consistent driver of community arts projects over the years regardless of the idea that what is local is not necessarily geographically proximate: an idea expressed through Anderson’s proposal of “imagined communities” (1983). CuriousWorks have retrofitted this strategy of meeting people where they are at on to a digitally networked platform (personal correspondence, Eleanor Winkler, September 2012). This is a highly problematic assumption because the dynamics associated with the two constructions of community are different.

The waning use of AAY may be attributed to the rise of FaceBook, but this momentum does not provide the evidence required to assume that a software platform is a ‘place’ where a community artist must be with individuals in order to understand their community context. Deeper understandings of networked individuals “communicative ecologies” (Hearn and Foth 2007) – the various devices and applications they already use to communicate – are required to

understand the contexts in which project participants operate. In some cases CuriousWorks decide that all the engagement must happen face-to-face. In Elias Nohra's words, "With some people I just know they wont engage. Certain age groups, and certain socio-economic situations, I just know. They just don't have the same access, and they don't have the same agency" (personal correspondence, Elias Nohra, September 2012).

During an interview, Elias Nohra touched on how the company's reliance on third party software platforms was bitter sweet. He described how he had, "nearly cried because Posterous broke" (interview, Elias Nohra, September, 2012). He had been working on a project that relied on the Posterous platform, and some part of it had malfunctioned. He talked about how much easier his situation would have been if he had been the person who ran Posterous; how he could go into the back end and fix the issue. He continued:

> We're at the mercy of these services, with the exception of putting WordPress on your server. But you're still at the mercy of their code. You can mod WordPress but you need a certain level of skill and expertise, which we don't have, and we've probably got more than most. So it's a big barrier. Designing something from scratch is what you think is the ideal way to deal with online and interactive and social networks but it's actually impossible, so it's about adapting what's out there (interview, Elias Nohra, September, 2012).

No doubt there was further cause for tears when Posterous announced in February 2013 it was ceasing its services. Twitter had purchased Posterous

roughly one year earlier, essentially to poach the blogging platform's programmers. Shakthi Sivanathan had anticipated the decline of the service post-acquisition, so was unsurprised when the announcement was made (personal correspondence, Shakthi Sivanathen, August 2012). CuriousWorks then had to be careful where and how they chose to promote the use of Posterous, as at the very least, development support would wane, and at worst, the service would disappear. They ended up having to contend with the latter.

CuriousWorks' discomfort with third party platforms dominating their networked practices was apparent in that they were constantly talking about ways to make new networks, and sometimes these involved new configurations of existing networks. Shakthi Sivanathan explained one of these ideas to me over lunch one day, "I've been thinking about making a new online community that runs off RSS feeds. What if we make some kind of area on the site called, I dunno, something like *CuriousNETworks*, an area that is made up of feeds from all different software platforms?" (personal correspondence, Shakthi Sivanathen, August 2011). I found this proposition really interesting because RSS (Really Simple Syndication) is a protocol that brings simple content interoperability to many different types of media and software platforms: it creates XML[25] feeds of media content that can be 'read' by other software.

Shakthi Sivanathan and I also discussed how important mobile platforms are for online communities. He explained that through experimenting with the AAY platform they had learned that the Ning iPhone interface was buggy. Videos

[25] XML is an acronym for extensible markup language, a programming language that encodes data to be machine-readable and human-readable.

uploaded to AAY cannot be viewed on iPhone, but "Android on Samsung fires up the actual AAY site and plays Flash video nicely" (personal correspondence, Shakthi Sivanathan, August 2011). Constraints such as these tend to be discovered though tinkering with different software functions. CuriousWorks have a good understanding of this, and so prioritise this type of activity where possible.

More recently I noticed a Twitter callout from Elias Nohra, garnering opinions about media-sharing platforms. He sent out three tweets, asking for feedback on Spruz, Grou.ps, Wall.fm, and Buddypress for WordPress (@eliasnohra 19.2.13). I am unaware of the context of his research, but saw this as evidence of CuriousWorks continuing to experiment with alternatives to the major social media players such as FaceBook. Shakthi Sivanathan also mentioned at one point how he and Peter Cossey had met to discuss using Drupal[26] for "building a repeatable web model for arts orgs" (personal correspondence, Shakthi Sivanathan, August 2011).

The transfer between geographic place and digitally networked place has proven a difficult one for CuriousWorks. The company has had many successes, but has also found some of its experiments have floundered. The established, commercial social networks they have used in place of their own network, AAY, have delivered certain affordances, while creating new issues for consideration by community artists. There is a feeling that the best is yet to come in terms of nurturing online community as an extension of community arts, but the current

[26] Drupal is a FOSS content management system.

trial and error approach adopted by CuriousWorks could do with some guidance to help shed some light on what can be expected from these networks.

5.4 Networked Publishing Activities

Networked publishing, or in CuriousWorks' speak, "the publishing model", is one of the company's widely executed internet practices. For the purposes of this research, network publishing refers to developing and implementing strategies to disseminate content across different digitally networked platforms. Networked publishing may result in a networked story, or it may create a network of interest around a particular digital artefact. It might refer to the practice of transmedia storytelling, or to the flows of content plugged in to mainstream social media networks such as Twitter and Facebook. Networked publishing can be a creative direction or a promotional strategy, or both. When projects require customised media-sharing platforms, CuriousWorks calls this 'platform building', and they situate it as a precursor to the networked publishing model.

CuriousWorks' describe one of their main services as "doing video for online" (personal correspondence, Shakthi Sivanathan, July 2011). The company works with different individuals and communities, with varying skill levels, to make videos that are developed in conjunction with a publishing model: this process takes the project assets in to consideration to develop ways the story, or different parts of the story, can be shared online. This process can be considered a distributed method of storytelling, a many-to-many model of cultural production.

My initial perception of video for online involved CuriousWorks helping people tell stories with video, before tailoring the clips for web delivery. I imagined the company developing strategies on how to distribute videos using free social media-sharing networks, and working out the best ways to make video content in to 'webisodes'. I assumed they were confining their service offering to imparting skills on how to make web-ready video stories. What I later realised was that the process of video for online, involved developing agile workflows that could respond to shifting user habits and the ever-changing rules surrounding social media-sharing tools.

A consideration for choosing appropriate technology for networked publishing is the time frames of projects. Sometimes what is considered appropriate is very much led by what can be achieved in a handful of workshops. The company's *Mountain Stories* was one such project that was shaped by its time frame. The project combined skills training for video storytelling, video diaries, photo blogging, and video documentation of graffiti workshops and other art-making activities. Elias Nohra also had to document a performance by an Indigenous group and the client had asked for the project launch event to be live streamed online. The plan for this project's publishing model was devised during a meeting. They began to brainstorm technological approaches. Initially Shakthi Sivanathan and Elias Nohra disagreed about the importance of the live stream. Shakthi Sivanathan floated that Qik software was a simple option. Elias Nohra explained that Qik and Posterous had interoperability issues, so they would have to use WordPress for the front end and the content management system. Shakthi Sivanathan enquired about whether Google Maps would be a good skill to teach

in the workshops; Elias Nohra advised against teaching Google Maps due to the time frame o the project. Elias Nohra also talked about how the workshops would be promoted as “Mac preferred”. He qualified this by saying, “It's a sustainability thing. I don’t want people to have to go buy macs” (personal correspondence, Elias Nohra, July 2011).

CuriousWorks did eventually use WordPress for the central repository of Mountain Stories. The visual design of the website is determined largely by the template CuriousWorks apply to the WordPress platform; which in this case was created by the theme design company, Graph Paper Press. Many other sites that CuriousWorks build for networked publishing purposes also use Graph Paper Press templates. CuriousWorks’ choice to use ‘sophisticated’ minimalist visual design as the frames in which community arts content is viewed, is in keeping with their desire to readdress issues of quality that have marred the sector for years. On a more pragmatic front, Graph Paper Press provides an affordable, and supported service that CuriousWorks have deemed appropriate for their projects.

In order to better manage networked publishing workflows, CuriousWorks try to leverage the affordances of meta-data. For instance, when CuriousWorks upload photos to Flickr on location from mobile devices, the images are automatically geo-tagged. This process prepares the images for future location-based, networked distribution. Smart phones are still the best, consumer-grade option for geo-tagged photos and videos, as they are based on GPS co-ordinates, rather than wifi access points.

In an attempt to make itself redundant, CuriousWorks train its clients and participants how to implement publishing models. This adds another level of complexity to the appropriate technology question, as certain networked publishing solutions will be suitable for some contexts, and not for others. In one instance, Elias Nohra did not support the use of Posterous for a project, as he thought it would be too inflexible. Shakthi Sivanathan countered with, "not much flexibility is good when we're trying to teach a specific publishing model" (personal correspondence, Shakthi Sivanathan, September 2011).

Achieving redundancy in the networked publishing arena is not as simple as teaching participants how to upload videos to YouTube and embed them in a Posterous blog. It involves nurturing new literacies linked to understanding how to represent oneself online. CuriousWorks maintain that they do this, but it is not the main rationale underpinning their workshop strategies. The company is also quick to qualify that network literacy building activities are more effective in longer-term projects. Elias Nohra explains:

> I don't run workshops were I say hey kids, here's how we can use the Internet to do things. When you're nurturing personal stories, you can't start like that. You start with the actual exercises around storytelling and making videos or whatever it happens to be and the online stuff is more of a distribution kinda method. But when we do get to that point, it's a complicated question. It's pretty great to be able to show young people how to publish themselves online, like, how to present themselves online. It's also difficult to do that sort of work in short-term projects (personal correspondence, Elias Nohra, September 2012).

Achieving redundancy in the networked publishing realm also involves teaching the administrators of the publishing models – for example, councils and schools – how to keep their content *agile*. In the same way that CW must keep a critical eye on the changes taking place on and in the media-sharing platforms they use, so must the cultural leaders they work with.

One of CuriousWorks' most successful networked publishing efforts can be seen through its people centred *Stories Project*. It combined digital media training and social enterprise mentoring to nurture two "crews" from opposite ends of Australia: the Urban Stories Crew from the Fairfield and Liverpool local government areas (LGA) in Western Sydney, and the Desert Stories Crew from the Western Desert in Western Australia. The Desert Stories Crew of five members were Indigenous Australians who harked from "all corners of the Pilbara" including Punmu, Parnngurr, and Kunawarritji. The Urban Stories Crew of six members had a cultural mix that included "Chilean, Chinese, Thai, Vietnamese, Iraqi, and Congolese" ancestries (*CuriousWorks Annual Report* 2010).

The eleven aspiring storytellers participated in an Artist Lab facilitated by CuriousWorks educators. During the lab they shared and sculpted stories; and learned new media, project management, and strategic thinking skills. The crews then collaborated to create five – what are described as high quality – videos that were showcased on the Stories Project website and various other media-sharing platforms. They called their first collaboration, *The First Supper*, a short film

documenting a potluck-style meal where they contributed dishes that had some association with the cultures they identified with. The five films also had public screenings in Sydney City, Casula (NSW), and Punmu Community (WA) (*CuriousWorks Annual Report* 2010).

The Stories Project was successful in its bid to become an ongoing mentorship of both the media crews. CuriousWorks mentors supported the Desert Stories Crew on their path to make *Martu Media* an enterprise that "serviced their communities with professional and affordable video production with a social conscience", while helping the Urban Stories Crew provide similar services to their community under the enterprise name, *Matta Media*. (*CuriousWorks Annual Report* 2010). During the mentoring program, CuriousWorks focussed on teaching skills to help the crews maintain an interest in "current trends in web video stories" and to think about ways the characters they were developing might transfer across different stories and media (personal correspondence, Eleanor Winkler, July 2011).

CuriousWorks has managed to build a network of interest around itself, as a company, through its web site and social media offerings. They have a web site – the most recent of which is internally referred to as 3.0 – which relies on data feeds from various other publishing platforms to display content. The company's multi-authored Posterous blog used to be one of the main sources of content for the 3.0 site. It had 15 contributors: the four core staff and various collaborators. Each Posterous post was also distributed via the main CuriousWorks Twitter account.

During my time at CuriousWorks, the company began a FaceBook publishing ritual. It was devised due to the fact that publishing to FaceBook had dropped off the staff members' priority lists. Shakthi Sivanathan proposed to write a post every Monday titled "Looking Forward", and asked me to write a post every Friday titled "Looking Back". These FaceBook posts were to include links from Posterous posts, or to reflect on projects or activities. When briefing me, Shakthi Sivanathan reiterated his strategy of focusing on "putting humanity at the forefront in social media, not on ideology or political beliefs" (personal correspondence, Shakthi Sivanathan, August 2011). During another conversation about social media strategy, Eleanor Winkler expressed concerns that her opinions might not gel with what she considered to be the CuriousWorks outward facing identity; she was worried about putting too much of herself in to public correspondence that had an indefinite life span. Shakthi Sivanathan assured her that he thought it was important that personalities of individual staff members and collaborators came through on social media platforms. He was more interested in this collective identity coming together to form the individual identity of the company. Eleanor Winkler and Shakthi Sivanathan then agreed the company should have a blogging policy.

CuriousWorks have come to recognise the challenges, as well as the opportunities afforded by media-sharing tools for networked publishing. By using third party publishing platforms, the organisation is constantly experimenting with software, mobile platforms, and enacting agile responses to changes in policies and terms of service. It is an accepted part of the company's

process, as the alternative is to build custom publishing and networking platforms. Sometimes this option is appropriate, but can prove expensive, time consuming, and often leads to solutions that are difficult to scale. CuriousWorks have also identified pitfalls associated with open source publishing and networking, where software can be unstable or not offer technical support.

5.5 Making Digital Telematic Art

Making digital telematic art – creative projects that frame telecommunications networks as an integral part of the artwork – is another internet practice I observed during my time with CuriousWorks. This activity involves thinking about digital networks as more than just a publishing or community-building tool, but rather as a creative artefact in its own right. This method has emerged over the last two years within CuriousWorks, exemplified by: *Living Streams*, a project developed to connect the landscape of the Georges River area with people from surrounding areas, and to "raise awareness about water as a living cultural heritage" (Living Streams 2012).

During 2011 I was asked to help Elias Nohra decipher which software might be appropriate for the *Living Streams* project. This project was unique for the company as it was their first project that relied on augmented reality technology. This meant approximately 25% of the project was devoted to research and development (personal correspondence, Elias Nohra, September 2012), a strategy that enabled iterative development to reveal the affordances of networked technologies. The project – also known as *Georges River Augmented Reality: a unique experience of place, water, art and history* – was an initiative

of the Western Sydney Regional Organisation of Councils' (WSROC) and funded by the NSW Environmental Trust. The project was coordinated by Liverpool City Council, the Liverpool City Library, and the Liverpool and Districts Historical Society, who engaged CuriousWorks as "technical partners" to help realise the project (Living Streams 2012). Living Streams was referred to by CuriousWorks as a "locative media" project, a term that is increasingly being used to describe projects that use mobile devices to access media in (geographical) situ. The idea of locative media has generated support due to expectations surrounding mobile connectivity delivering place-based experiences that are "more expressive, engaging, and meaningful" (Galloway 2008, 2).

I attended one of the initial meetings CuriousWorks had with the client. Many different aspects of the project were discussed, from the front-end design of the website, to network infrastructure, and augmented reality platforms. Shakthi Sivanathan also spoke about how they should anticipate how the "on-the-ground technology" would be limiting, such as the devices, software platforms, and network technology people would need to view the streams. Elias Nohra added, "So far, most of the options require smart phones and internet. So, what's it like out there?" The client told them there would be three main locations where people would begin their journey, but that the library would be the "hub". And that at these "bases" people could download maps from the Internet and find out about the project. Shakthi Sivanathan asked, "Are you OK with people needing 3G?" The client replied, "I'll have to check" (personal correspondence, Shakthi Sivanathan, July 2011).

Following this meeting, I spent two days helping Elias Nohra research and experiment with different software that could be used for *Living Streams*. We began the process by sharing our respective knowledge of different options. We both knew about *Wikitude*[27], and *Layar*[28], Elias Nohra offered up *Everytrail* and *TreasureMapper*, and I offered the idea of doing a geocaching[29] project using QR codes[30]. Elias Nohra liked my idea so he went online and found a no-cost QR code creator that allowed people to instantly make codes with text, phone numbers, and URLs embedded in them. He became more excited after finding this as he felt it was "like a game". He then added, "We're are a bit slow off the mark. QR codes are like five years old!" A pragmatic reason for opting for geocaching was that an established network of practice could potentially stumble across Living Streams during the course of their game play.

Further research into TreasureMapper revealed that it had been made to help "manifest media arts projects in public space" (TreasureMapper 2011). I liked this premise, but found it difficult to understand how to use the tool. Elias Nohra and I both eventually worked out that you needed your own server to install the software. I then commented that the confusing nature of their instructions were probably due to them assuming people with their own servers had a certain level of network administration knowledge, which rendered the software inappropriate for our purposes.

[27] Wikitude is an augmented reality wiki-based software application for mobile platforms.

[28] Layar is an augmented reality software application for mobile platforms.

[29] Geocaching is a physical activity that uses GPS co-ordinates to find 'caches'.

[30] QR codes are machine readable barcodes.

I then decided to have a 'play' with Everytrail. I felt it was the only way I would get a feel for whether the software was appropriate for the Living Stream project. I decided to make a story of my journey from my desk to the coffee shop. The software documented my journey through plotting photos on to a map I had taken with my smart phone. It was very easy to use, and I didn't notice any technical hitches that disrupted the experience. I showed Elias Nohra when I returned. He was happy that we had an example to show the client, but voiced concerns about how the software would work around the Georges River where 3G[31] network coverage might be patchy (personal correspondence, Elias Nohra, July 2011).

Elias Nohra and I then spoke to Shakthi Sivanathan about TreasureMapper. He was aware of the software and really liked it. We then mentioned Everytrail, but Elias Nohra articulated concerns about having to submit a guide that needed to be approved by Everytrail. We showed Shakthi Sivanathan my 'coffee journey'. He said, "This is cool". I replied, "But it's a bit of a closed shop". Shakthi Sivanathan responded pragmatically, "it would have to be for it to be this stable" (personal correspondence, Shakthi Sivanathan, July 2011).

Although keen to offer three options to the client, Elias Nohra promoted Wikitude as the only augmented reality software he thought was appropriate for Living Streams. He explained that a good aspect of Wikitude is that it is simple to use and it is not moderated, but a negative aspect was that you could not add images to an entry. He explained his concern that Layar, another augmented

[31] 3G is the term used to describe third generation mobile telecommunications infrastructure.

reality application, would be too complicated. Elias Nohra and Shakthi Sivanathan also agreed Wikitude was best approach to display the multiple streams idea. Elias Nohra talked about an augmented reality project he had set up in Penrith using *Wikitude*, but lamented that he could not show the client because they were not actually *in* Penrith. Shakthi Sivanathan told the client he thought the augmented reality approach was a "nice creative way to play with text" (personal correspondence, Shakthi Sivanathan, July 2011). He then offered the idea that the text appearing in *Wikitude* could be tweets[32], which would be a good way to integrate content in to a front end website – another display of technological bricolage.

They contemplated using WordPress for the main Living Streams web presence, as they had used it for Neighbourhood Stories and it had performed well. Although CuriousWorks had "had a lot of success with Google maps" on previous projects, they were concerned that it was running badly on Chrome, Google's web browser (personal correspondence, July 2011). Elias Nohra explained to me that Google maps had been having technical issues because "they had just made KML[33] available to everyone" and this had coincided with him not being able to upload video. Shakthi Sivanathan added that some of Google's software is in a "state of flux because they just launched Google+ and are trying to find ways to integrate everything to make a *we dominate you* internet experience" (personal correspondence, Shakthi Sivanathan, July 2011).

[32] Tweet is the vernacular term for the micro-blogging format of the Twitter social media service.

[33] KML (Keyhole Markup Language) is an XML (Extensible Markup Language) notation for expressing geographic annotation and visualisation.

Elias Nohra, Shakthi Sivanathan, and the client settled on using Posterous for the *Living Streams* project. The client had not heard of the blogging platform, but signed off on using it based on the recommendations of CuriousWorks. Its arguments for using Posterous were:

> The blog posting mechanism uses email, handles media really well, and is easy to edit. People can just email in photos, and you, the super-user, decides which ones get posted. Posterous is a good holistic option. It is the winner. We've used so many other things that seem great, but Posterous is the one that people keep using (personal correspondence, September 2011).

An intriguing grey area surrounding appropriateness of internet technologies is highlighted here. The decision to use Posterous as part of the technology assemblage for the Living Streams project was appropriate at the time; however, the fact that it was a free, third-party platform meant that there were never any guarantees it was going to continue to serve them in the way they thought. The promotion of Posterous as the appropriate internet technology occurred well before Twitter's acquisition, so CuriousWorks had assumed the platform to be relatively stable. As previously mentioned, Posterous is now defunct, and so the Living Streams website has also disappeared, even though the original intention was for the site to have a permanent online presence. Ideally, an alternative plan to repurpose the Living Streams content would have been implemented, to contend with the platform closing.

When I interviewed Elias Nohra one year on from the planning and implementation of Living Streams, I asked him about the circumstances under which CuriousWorks' technology research, experimentation, and innovation were happening. He responded, "I think this type of activity needs to happen in our art projects which means we have to find the right projects". He then added, "Having said that, we are playing around a lot with the augmented reality stuff – it's horrible! It's just not working. It's really shit". I asked him what aspect of the process was not working. He replied:

> The platform we chose. We chose Wikitude because it was the only one that was feasible at the time. It was totally free and could work with Google maps, and so could be updated by community. But it's shit. And Google maps keep changing their plans, and stuff like that. So yeah, I'm constantly – I hadn't even thought about it – so we are still playing with stuff like that, and working out what works and what doesn't using some of these community programs almost as experiments. But it sucks being a pioneer because you make all the fuckups and you invest all the time and money, and then six months later it's way easier and you've just wasted all your time (interview, Elias Nohra, September, 2012).

Living Streams was a participatory, networked, place-making experiment. It used different forms of media content to communicate place-based stories, and used the internet and mobile communications networks as its medium. CuriousWorks enjoy this type of technologically challenging, emergent, digital telematic art project, but find it bittersweet to be in a pioneering role. These projects remain a quite a rare occurrence, as they require the correct cocktail of

client momentum, resourcing, and arts worker skill and initiative. This leads to CuriousWorks not pushing the service so keenly, as it is almost a digression from their core business: that of ddiscreet, manageable 'video for online' projects with knowable timelines and outcomes that can be relatively easily planned and implemented. Locative media provides another example of how the internet is reconfiguring community arts practice. Where online media sharing networks shift meanings of community, locative media shifts notions of geographic place.

5.6 Practicing Knowledge Brokering

Knowledge brokering – in the context of this research project – is the development and dissemination of information, techniques, and tools via the internet. Through the creation of documents, routines, vocabulary, and symbols, knowledge brokers route, and reroute ideas, and resources, just as a router in a packet data network brokers the relationship between data and its path. Knowledge brokering goes beyond information sharing – a straightforward 'passing on' action – to highlight context and connections before disseminating the information further. It is an adjunct to on-the-ground community arts advocacy, extending practices to include networked mentoring for capacity building purposes. The word broker derives from Anglo-Normandian brocour "small trader" (2005), suggesting the knowledge broker carries out small exchanges of ideas.

The CuriousWorks' Toolkit, developed in 2010, has been the company's boldest move in the realm of networked knowledge brokering. Developed as a way to

disseminate community arts and media-making methods the venture also helped them build a reputation as an organisation that value knowledge sharing and social learning. All the content shared by CuriousWorks in the toolkit is published under a Creative Commons Attribution Share-Alike license and offered as free PDF downloads. The Toolkit solicits donations through the site promoting its status as a registered Australian charity.

Dubbed as a "living resource library for artists, educators, cultural leaders and media makers everywhere" the Toolkit is split in to three content sections (CuriousWorks Toolkit 2011):

1. *Strategy*, an area housing articles to help build community partnerships and evaluate projects;
2. *Workshops*, an area offering activities for creative media capacity building; and,
3. *Knowledge base*, a repository of "technical knowledge, tutorials, case studies and external resources"

Toolkit resources consist of both original CuriousWorks content and ideas the company has sourced from the internet to reconfigure for the community arts and education context. This re-contextualising is an attempt to offer new connections and vectors of understanding, in order to support the design and production of alternative narratives. Toolkit content was sometimes what CuriousWorks called "in beta". These were workshops or ideas for activities that were "untested" (personal correspondence Shakthi Sivanathan, June 2011). CuriousWorks actively asks for feedback about and contributions towards these beta-models

from people who used them: beta-testers. The company saw this as a crucial ingredient for the evolution of the toolkit resource as beta-testers encourage dialogue, explicitly situating everyone involved in a feedback loop. Beta-testers are also offered the opportunity to change the beta-model if they are dissatisfied. Adjustments could come in the form of suggestions or direct changes to methods or materials. The company prides itself in acknowledging that the more communities it works with, "the more the value of that combined knowledge and network grows" (Job Advertisement: CuriousWorks General Manager 2012). Through their toolkit CuriousWorks also encourage the sharing of "things that didn't go well" in community arts projects. (Working With Communities: Artists in Conversation, Shathki Sivanathan 2011).

When I began my fieldwork at CuriousWorks, the company was using the free software platform Posterous to host a multi-authored blog. The four core staff and fifteen CuriousWorks collaborators populated this blog with content. This Posterous site was also a content management system of sorts, as CuriousWorks fed posts through to their main website curiousworks.com.au. I was one of the collaborators to become part of this blogging network. With this duty came the responsibility of knowledge brokering. My brief was to post anything I found curious. It didn't need to be community arts related, but could not be overtly political.

One of the other tasks I was charged with in the field was the making of a favourites playlist, a compilation of videos from the CuriousWorks YouTube channel. This activity revealed some challenges similar to those I had

encountered when I was working as a community manager at ABC Pool. When deciding on the best way to curate a highlights feed we took the opportunity to do away with traditional notions of artistic selection criteria. We did this by implementing one rule for selection: if the individual doing the selecting found the content *interesting*. As the community management team came from different media production backgrounds we had different measurements of what constituted interesting, and different ideas about what constituted high production values. This approach led to a more diverse collection of content being featured in the site's highlights feed. So finding myself in a similar curatorial position at CuriousWorks, I decided to use the same selection process. This anecdote highlights how the values of networked individuals are delivering new configurations of content. Curatorial processes used to rely on a hierarchical model that elevated certain aesthetics, production processes, and creators over others. These processes are currently undergoing changes as new norms, values, and hierarchies emerge around the production of culture.

Before I began posting on the Posterous blog I asked CuriousWorks staff how to pitch my writing. They all had difficulty pinning down a specific audience as Posterous posts are syndicated across the CuriousWorks website and published directly to Twitter. This meant my posts were to appear across multiple networks. One way I chose to negotiate these new hybrid audience arrangements was by thinking of them as "electronic networks of practice" (Seely Brown and Duguid 2000), an idea related to Lave and Wenger's communities of practice (1991). Electronic networks of practice can be localised networks consisting of strong ties of individuals, or a more loosely arranged networks consisting of

weak ties. This conceptual framework allowed me to recognise the commonalities associated with the networked individuals I was dealing with, while acknowledging their diverse practices and interests.

Another consideration regarding the knowledge broker's network of practice is the difference between communicating with the network, and communicating with individuals in the network: the differences between communicating publicly, to communicating privately. During an interview, Elias Nohra told me that FaceBook is the main platform he uses for communicating with participants. He described how he has taken the participants' lead regarding the style of communication – an informal, almost abrupt, language – to use on the social network; but that when individual participants wanted more in depth interaction, they moved the conversations to email which they considered a "more formal space" (personal correspondence, Elias Nohra, September 2012). He also mentioned how the informality of FaceBook created a mode of being that was removed from work, leading to confusion surrounding the use of FaceBook as a work tool. Elias Nohra maintained that he preferred using AAY or a designated Posterous blog for communicating with project participants as he sees them as designated networks.

In my third period of fieldwork I learned that CuriousWorks uses the concept of 'active' and 'passive' audiences to help situate the types of responses and level of responsiveness that is necessary in a knowledge broking scenario. An active situation might be a social media environment, which is in contrast to a passive situation such as the Toolkit (personal correspondence, Elias Nohra, September 2012).

Knowledge brokers are also in the business of nurturing knowledge spillovers: when ideas overflow between different groups. This is often a by-product of nurturing partnerships, relationships, and connections. During my time with CuriousWorks, I watched the company become more aware of the importance of coalition building, and saw them hypothesise as to whether the Internet is helping us form open-source alliances, as well as products. This idea refers to people and companies who would normally compete with each other, acting effectively as a unit without losing their independence.

CuriousWorks' have a natural propensity for knowledge brokering. It is a practice that they have consistently prioritised, exemplified by the CuriousWorks Toolkit offering. It is quite a natural progression for them to glean curious ideas, reconfigure them to suit the appropriate context, to offer alternative narratives, to diverse networks of practice. These small trades of ideas and knowledge are offered as an exchange, as part of conversations that they hope might fertilise the digital commons so that the knowledge can find new routes and new networks of practice. CuriousWorks support this re-routing exercise through nurturing connection points between different networks to encourage knowledge spillovers.

5.7 Assembling Internal Digital Infrastructure

The internal digital infrastructure of CuriousWorks is another internet practice under scrutiny for the purposes of this research. These practices are important

not only for communications and organisational processes but for developing more nuanced understandings of the material qualities of internet infrastructures and services. Internet materiality is revealed due to the tinkering activities underpinning the company's internal internet practices. Experiments with software and hardware and are born out of curiosity, frustration, and need, and have become an important site for capacity building for staff. The more they play with hardware and software, the closer they are to making the conceptual leap to understanding the internet as material for making networks, as well as media.

Much of CuriousWorks' internal communications happen online. So much so that when I was not physically there, I could maintain a level of understanding of the company's operations and projects. CuriousWorks uses free Google cloud-based services as an intranet. Google's interoperable word processing, spreadsheet, calendar, and email services, have proved useful for a time-poor small enterprise like CuriousWorks. The company receives data storage, bug fixes, and software updates at no financial cost, and is offered relief from systems administration duties. CuriousWorks make an effort to understand the implications of using remote data storage. They are aware that new ethical considerations come into play each time they commit their data to a remote platform, but the implications of these actions have not revealed themselves as yet, so they continue to use them. So far, the positives outweigh the negatives as the company very much relies on third party services to communicate and collaborate. Negative fallout from their reliance on Google services seems as remote as the data centres in which the company's data is stored.

During an end of year planning meeting I attended the company realised that their internal communications systems were not serving them well enough (personal correspondence, CuriousWorks, December 2011). The issue was that they were not able to have meetings often enough as it was difficult to get staff in the same place at the same time. They had a collective brainstorm and came up with the idea to use a specific Posterous tag labelled "chattime" to facilitate the sorts of conversations that would normally happen during meetings. Their attempt to time shift these 'chats' took about ten minutes to discuss and implement. Just like that, they had a new, searchable, free, internal communications system. Shakthi Sivanathan was particularly excited about the chattime solution stating that "we keep trying to build online infrastructure and nobody uses it ... Posterous works coz it's email!" (personal correspondence, Shakthi Sivanathan, December 2011) After witnessing this Posterous hack, it struck me that CuriousWorks staff had developed a knack for modding proprietary software tools to suit their purposes. In an act of defiance against their limitedness, CuriousWorks often found ways to use software in ways the original designers would not have designed for. These experimental practices are also crucial for CuriousWorks staff to develop network agency (see Chapter Three).

Building and maintaining agency as a network participant can be a sporadic affair. Boundaries are often formed by trial and error, and the public nature of this process means individuals can be left compromised. This is partly why CuriousWorks' internal experiments are such an important aspect of their networked practices. The company has carved themselves a safe space where

they can try things out, fail, modify their practices, and try again. These controlled internal experiments, very much inform what CuriousWorks does in their community arts projects. The company uses its experience with network technologies as rationale for either selecting, or disregarding them.

Part of CuriousWorks' service to OTYP during the Geeks in Residence program was to help the theatre company improve their internal digital infrastructure. The only system OTYP were using at that point was email, so CuriousWorks recommended a new digital communications system that used Posterous. CuriousWorks decided it would be the most appropriate system for OTYP as the Posterous blogging functionality is email based, while offering additional functionality such as comments threads, tagging, and embedded media. CuriousWorks explained to OTYP that if the company developed a discipline around this new communications practice that it might help them deal with issues they face around staff being geographically dispersed (personal correspondence, Elias Nohra, September 2012).

Once the Posterous was set up Elias Nohra encouraged OTYP to simply publish things that they had done. All this would take was an email. He told them not to worry about whether anyone might read it but to simply experiment with this new publishing mechanism. And so they did. They even began commenting on each other's posts. But the communications soon dropped off. Elias Nohra wondered whether he had provided an initial spark, but as there was no strategy to maintain momentum – that the spark had failed to ignite this new way of reporting. Elias Nohra expressed an interest in researching this further as he

recognises how important it is for his peers to develop new ways of communicating with each other. He has seen the effects a rather simple shaking up of processes can have, and is excited about what might happen if these new processes maintain momentum.

In order to develop the most appropriate solutions for their own internal use, CuriousWorks tinker with video files, social media platforms, hard drives, and mobile operating systems. The purpose of this type of experimentation is to push the limits of these technologies, a process that helps the company work with limited finances, human resources, and time; at the same time, building awareness of the materiality of software and hardware. CuriousWorks' internal digital infrastructure practices also show us that playing with different technologies, and celebrating your successes and failures, can lead to an increased awareness of one's own network boundaries. CuriousWorks' practices also reveal that developing your own sense of what is appropriate for you is synonymous with developing network agency: a state of being where a person understands themselves within a networked environment. Having network agency is then an optimal state for modifying one's own practices, and also for modifying technology, if such a maneuver is appropriate. CuriousWorks' practices also suggest that once the new methods are in play, steps must be taken to maintain the momentum needed for changes to take hold and become established practices.

5.8 CuriousWorks' Networked Futures

CuriousWorks' networked futures discourses continue to be steered by the overarching goal of shifting cultural perception through nurturing distributed cultural production. This goal is supported by the objective of reclaiming the internet as a place where strong community ties are built. CuriousWorks aim to do this by calling for – and implementing – a new design philosophy that envisions the community arts and media sector as facilitators of deep engagement online. The company is imagining places to hang out – as opposed to check-in – to discover new Australian content and to benefit from new social learning paradigms.

At the 2011 end of year planning meeting, Shakthi Sivanathan offered staff a new outward-facing structure for the company. He outlined his proposal on a whiteboard, writing "ANOTHER AUSTRALIA (AA)" on one side, and "CURIOUS CLASSROOM (CC)" on another. Under AA he wrote, "couch mode"; under CC he wrote, "classroom mode". Shakthi Sivanathan explained that he saw AA as a professional, community-centred media portal and CC as a container for CuriousWorks' education activities. He also explained he had appropriated the notion of modes from gaming. He stressed that this new approach was partly an attempt to deal with confusion surrounding the company's outward facing identity.

The proposed Another Australia and Curious Classroom structure sparked an impassioned debate among staff. Eleanor Winkler suggested AA might need to be a highly curated space, citing IPTV research as evidence that people don't

necessarily want to choose content. Elias Nohra disagreed with the idea that people don't want to choose their content, and suggested a YouTube model as a more appropriate approach as the mode in which people receive their content is still through a computer. He also took issue with the phrase couch mode as he saw the process of accessing this content as more active. Eleanor Winkler defended her earlier comment saying that she was trying to think about CuriousWorks' content in a multiplatform environment, and agreed that AA shouldn't be called couch mode. They all subsequently agreed that it was good to call the 'sit back and watch videos' experience couch mode, but that this was only one section of the whole AA site. This discussion indicates the company's ongoing commitment to understanding emergent online participation and learning paradigms. The varied opinions disclose the multiple ways online interfaces can be designed and what is at stake when a design decision is made.

Shakthi Sivanathan then began to talk about the Curious Classroom. He described the service as a merge of their toolkit and social media, and suggested they needed to consider a subscriber model as a revenue stream. Shakthi Sivanathan spoke about how he knew Elias Nohra would have a problem with asking for payment for their toolkit resources. Elias Nohra concurred, adding that he supports the ongoing free access to their online toolkit. He also didn't see them having a subscriber market unless they developed a relationship with the Department of Education and Training (DET). He also added that he wouldn't have a problem doing remote video workshops partly because he thought the equipment many schools now have would make such tasks feasible. Shakthi Sivanathan then brought up the issue that Curious Classroom would lead to more

screen mediated interaction. This led to a broad discussion about how they would have to deal with new resourcing issues. Elias Nohra then remarked how exciting it would be to have a digital network of teachers talking to each other about creative digital media, but he questioned whether such a scenario was achievable. The team eventually all agreed that Another Australia and Curious Classroom were going to become the company's only long-term focus.

The company then did a future scoping exercise where they wrote down where they though CuriousWorks would be in 6 years. Different scenarios were posed. Many of the ideas involved CuriousWorks doing what they are doing now but just with better systems and on a larger scale. Eleanor Winkler also offered the idea that CuriousWorks develops "nodes" in the Asia-Pacific region, and that Curious Classroom becomes heavily influenced by "gamification", while Elias Nohra talked about Curious Classroom as a place that "created networks" (personal correspondence, December 2011). This discussion provides an indication that planning for future incarnations of the organisation is a difficult undertaking, as one of the only constants in their operations is that sociotechnical assemblages will continue to change.

In the days following the planning meetings, Shakthi Sivanathan shared an email with the other staff members. It contained an elaboration of his vision for Another Australia and Curious Classroom. He wrote:

> Another Australia is a site visited by the general public, a place housing diverse stories – funny, sad, fictional, documentaries, revealing, personal, addictive, important. Significantly, young people and schools around

> Australia tune into Another Australia to see their own work presented alongside others from all over Oz. Internet TV and mobile app is rather popular among the cool. Politicians start to take note. The Curious Classroom is a thriving online hive of busyness – resources, forums, devising artworks, creating networks, troubleshooting.

This statement indicates that Shakthi sees CuriousWorks playing a very active role in the new connected learning paradigm. Connected learning is a "reimagining (of) the experience of learning in the information age" that focuses on equitable, social, and participatory activities (Connected Learning Infographic). AA and CC are well aligned with this connected learning model as they propose to bridge online and offline activities, and formal and informal education practices. Situating AA and CC as platforms for social making and learning also positions CuriousWorks staff as "watchful caretakers", part of a network of "diverse gardeners" attempting to sustain networked cultures (van Dijck 2013, 176). The proposition of AA and CC can also find support via Douglas and Seely Brown (2011) who assert that a combination of self-directed P2P learning must be balanced out with "bounded and structured environment(s)" that enable "unlimited agency to build and experiment". They argue that the interplay between the two elements, unlocks the potential of the "new culture of learning" (2011).

CuriousWorks currently use the words "Another Australia" in the branding of their main website, curiousworks.com.au. However, this second incarnation of Another Australia – proposed by Shakthi Sivanathan during the end of year

planning meetings – was an attempt to revisit the company's previous plan of making a sector-wide network. But instead of inviting other practitioners to use a CuriousWorks' platform, the company plan to take RSS feeds from whatever platforms those practitioners are already using, to create a repository of community arts activity from all over the country. The activities will be geotagged and therefore organisable and searchable by location.

Arguments for developing a platform like AA also involve creating safe spaces for the disenfranchised to share creative media. Trolling on large public media sharing sites like YouTube creates issues for community artists whose objective is to nurture the creative capacities of these people. With AA, practitioners will be able to enjoy the affordances of functionality associated with sites like YouTube, but within an environment that has community guidelines and a level of community management.

The Curious Classroom can be thought more as an online container for CuriousWorks' education operations and outputs. It is an attempt to help market and organise CuriousWorks' education models, while providing a platform for research, experimentation, and development. The initial manifestation will be an email newsletter. Considering their limited human resources, they felt this was an achievable first step. They plan to build the service up over the next seven years, to include virtual workshops and the facilitation of virtual networks. They will start the project with seed funding, with the aim of creating a networked service that is built on the financial back of paid subscribers.

The ideas embedded in the Curious Classroom have evolved from insights the company has gleaned from their All Around You network, and their online toolkit offering. One being that some of the toolkit content – particularly relating to technology specifications – became outdated relatively quickly, and the functionality of the toolkit didn't allow for this content to appear less relevant. Elias Nohra told me he was embarrassed about this, and that in some cases it had only taken a year before the content was stale. He then described how Curious Classroom was going to deal with this:

> It's going to be in a digest style form, more of like a magazine. It keeps coming out. Some things will remain online but things get updated and you have to think about anything related to technology and networks as developing like that (personal correspondence, Elias Nohra, September, 2012).

This comment is indicative of how CuriousWorks' pragmatic approaches to technology is developing better senses regarding the structures and dynamics of the internet. The move from a static toolkit offering to a format that indicates content will have a used by date is a far more achievable project, and a more helpful offering for the audiences they want to engage.

In 2012 the Australia Council held consultation meetings with Australian community arts practitioners to discuss sector development initiatives. The consultation period culminated in an agreement that practitioners were best placed to bring the sector forward. CuriousWorks floated Another Australia and Curious Classroom to the Australia Council as sector development initiatives. There was a positive response to both ideas but the Australia Council had

concerns that Curious Classroom was too far outside its remit as an arts funding body. So it offered some funding to CuriousWorks to develop Another Australia. When Shakthi Sivanathan told me about this he mentioned he felt good about not diving in to a fully-fledged development of Curious Classroom as CuriousWorks would have to stop their other operations. He explained, "Slow is good. For holistic companies, I think slow growth is good" (personal correspondence, Shakthi Sivanathan, September, 2012).

Internally, CuriousWorks sometimes call AA "the mesh network". This description helps situate the media channel as having a somewhat *ad hoc*, distributed organisational form, similar to the digital networks enabled by mesh wireless protocols. The concept of CuriousWorks' mesh network is similar to Rossiter's characterisation of "organized networks" (2006): "environments for sustainable knowledge sharing, production, and perhaps most importantly, reproduction" (Coleman et al. 2009, 7). The organised network the company is planning is an attempt to "transform the entire community arts sector, and turn it into an alternative media source" (personal correspondence, Shakthi Sivanathan, September, 2012). Shakthi Sivanathan told me that they all accepted this was a "huge goal" but that they were attacking the project slowly. They will build the site in stages, adding feeds in phases. I asked Shakthi Sivanathan whether this was a strategy to introduce the network slowly to the sector, he replied, "No, it's financial" (personal correspondence, Shakthi Sivanathan, September, 2012).

Many aspects of CuriousWorks' networked future – as with the rest of Australian society – will be determined by government policy surrounding

superfast broadband. The game changing nature of such an increase in bandwidth became clear to me after an interview with Elias Nohra. He told me about a conference he had attended at Casula Powerhouse where there had been a video conferencing hook-up with UK arts organisation, Contact Manchester. The event was the Youth and Performing Arts conference, and Contact were using a piece of network hardware at their end that enabled the audience in Liverpool to view live, high definition footage of them. Elias Nohra told me how he had never been overly convinced by live video applications like Skype, but that this experience had left him "almost in tears with excitement, as there was no lag". He further described the scene:

> Liverpool City Council shut down their entire Internet and fed it all through one computer so it could talk to that black box. Someone in Australia beat boxed, and they rapped on the other end. We were talking in real time and the quality was great because the gear was good on their end and the connection was amazing. I don't think anyone else in the room reacted the same way as me. It felt so immediate, and you felt really connected because the quality was that good, and it made me realise, if this NBN thing actually ever happens, if this is the quality that we can achieve through that video conference stuff, it's a game changer, it's the second best thing to being in a room with them. So that's a bridge because all these network things that you do there's a separation, you know and it's just trying to hold on, just trying to grab on to the little coat tails and keep people connected, but if you're in their face, if there's a way to make it immediate and have that human connection when we have a conversation - it's always better to meet someone than speak to them

> over the phone - that's something that will change things I think. I think it will really really change things. And hopefully change how we operate. I'll never leave the office! But why did I bring that up? Well I see that as being the ultimate social network. I'm still surprised at how much of a difference the high fidelity made.

In response to this statement I said to Elias Nohra, "You're talking about this is like a social network interface that you haven't seen before. It's very different to a FaceBook wall isn't it?" He replied:

> But that could be the motivator. Imagine that the Posterous kick-start happened that I told you happened with OTYP, and people started talking, and before it died, we organised one of these face-to-face things. It might give the immediacy that you need. You need that connection, and then the network survives, and it keeps getting shared to, but you just need that spark to get reignited.

To this I replied, "Are you saying the lull after the spark requires more of a real time connection? And if that couldn't be facilitated for geographic or financial reasons, this could be an option?" He responded, "It might just work" (personal correspondence, Elias Nohra, September, 2012).

Rossiter's text *Organized Networks* (2006) is again helpful here as while describing the new institutional forms afforded by networked communications, he cautions not to "overlook the importance of face-to-face meetings" (Rossiter 2006, 205). He encourages the incorporation of "fleshmeets" – borrowed from

"1990s cyberspeak" – as necessary accompaniments to online forms of communication such as mailing lists and newsgroups, claiming that "such occasions are crucial if the network is to maintain momentum, revitalise energy, consolidate old friendships and discover new ones, recast ideas, undertake further planning activities, and so on" (Rossiter 2006, 205).

Another Australia grew from a desire to have an alternative, bottom-up, media channel to represent and celebrate Australia's diverse cultures; while Curious Classroom evolved from CuriousWorks' social network All Around You, their online toolkit offering, and the promise of superfast broadband and its associated networked hardware and software. From encouraging self-representation via mass-self communication networks, to building an alternative media channel (Another Australia) and an alternative education network (Curious Classroom), they aim to further establish practices that challenge dominant cultural paradigms.

5.9 Conclusion

My period of participant observation at CuriousWorks' revealed extensive internet practices, and when scrutinised under the lens of appropriate technology the idea of appropriate *internet* technology emerged as an aspiration with few sightlines. This relates to the network as artistic material being a moveable feast, attached to multiple social, economic, and political power dynamics that permeate and contest several different contexts. The complex nature of this artistic material stresses the need for experimentation and play in the development process. CuriousWorks have responded to this call by nurturing a

culture of research and experimentation. Staff have prioritised the art of playing with, trialing, and modding network technologies, and in the process have developed their own agency as network participants.

The company's work developing online communities has seen them continue to work towards establishing a distributed network of voices concerned with and representative of culture. They have embarked on multiple online community building projects that work to extend creative practices beyond physical making spaces into online making spaces. CuriousWorks' experiences with the AAY network has given them hands on experience of making and running their own network and consequently delivered new competencies, particularly regarding media sharing, network participation, and online community management. This new knowledge has helped the company to better manage theirs and their clients' expectations around online communities, while influencing the design of new, more appropriate systems. Beyond their many successes the company admits their online community practices would be improved if they had a better understanding of how the values associated with physical community differ from those associated with online community.

CuriousWorks' efforts developing networked publishing models have led to culturally diverse stories being disseminated through mass self-communication networks. In order to take advantage of these mass self-communication networks CuriousWorks attempt to keep content agile over multiple platforms, ready to move it whenever the platform's terms of service hints at obstructing their projects. Part of this strategy involves teaching their clients and participants how

to keep their content agile also. This exercise in sustainability is accompanied by activities that help participants frame their content as a networked artefact. The company also puts effort in to helping participants understand how to represent themselves in network publishing environments, while seeking out appropriate networked cultural contexts for particular groups. At every possible step CuriousWorks also attempt to streamline workflows that aid the organisation and distribution of content, illustrated by their use of meta-data.

CuriousWorks' experiences with digital telematic art have been limited, but not for a lack of enthusiasm on the part of the company. Clients are yet to be excited enough about the affordances of such projects partly because there are not many community arts case studies to ground the practice. These types of projects are still challenging in a community arts context as the software that is available for free is quite limited, and network coverage on the ground is not yet at a point where it paves the way for participation; however, as an artistic approach, locative media has succeeded in reconfiguring notions of place, and place-making activities.

CuriousWorks are natural knowledge brokers. Their offerings of small trades of knowledge have enabled the ongoing mentoring of participants. The reputation the company has built for being altruistic – as a result of its propensity to share over networks, and contribute to the digital commons – has been an invaluable marketing tool for the company, helping them build alliances with funders and partner organisations. They also encourage the seepage of ideas between

networks as an exercise in re-routing ideas so they might be exposed to new networks.

CuriousWorks' internal networking practices have proved a useful site for networked experimentation, providing a context in which they can develop their own notions of what are appropriate practices. This type of experimentation has shown to increase individual staff members network agency, meaning they are in a stronger position to critique and mod network technologies, and are therefore better equipped to decipher appropriateness for community projects. The company's mature development of internal digital infrastructure has put them in a position where they are now advising others on their internal network systems.

CuriousWorks' networked futures discourse centers around new organisational forms. Their plans to create an alternative media channel from feeds, and to nurture an alternative education network are bold in scope but have emerged via experience from their previous networked activities. These two projects unashamedly take the company's current mission of creating alternative narratives to the next level; while providing a case in point that practitioners are well placed to contribute to sector development.

This study of CuriousWorks' internet practices has demonstrated that the company applies experimental and agile approaches in order to negotiate the complexities of the material internet. And although they spend a lot of time trying to understand this material, they run into problems when they retrofit traditional community arts philosophies surrounding community and place, to

digital communities and place. The following chapter extrapolates on how I used these insights to develop two experimental interventions to test communication methods that provoke critical thinking around internet practices.

6. Research Experiments: Translating Critical Internet Practices

6.1 Introduction

This chapter describes two experiments I designed as part of my investigation in to critical internet practices and its byproduct, appropriate technology. Two design artefacts – booklets – were at the centre of the experimental interventions. These short-format electronic books were distributed over the internet as free PDFs. The booklets captured and represented how some community artists are trialing the potential afforded by new, networked configurations. I designed them as thinking tools to form part of the toolkits of community artists and policy makers. The booklets are the manifestation of my intention to intervene actively in the research context and to discuss my findings openly with CuriousWorks.

My booklets trace the practical consequences of the internet practices of CuriousWorks in order to configure new models of practice, which further inform theory. They combined theoretical viewpoints with ideas derived from the field to explore how emergent modes of digitally networked participation and connections are affecting culture making in the community arts context. This approach builds on the premise that sustainable practices in community arts rely on praxis which give rise to appropriate cultural and technological practices. The booklets problematise assumptions (surrounding community arts and internet) and so they are careful to provoke rather than preach. This approach minimises

the risk of my "progressive critical voice becoming dogmatic" (Becker 1994, xvii).

The booklets seek to develop the critical skills of community artists to help them assess and apply appropriate internet technologies, while promoting the position that critical approaches to everyday network participation are a factor in sustained engagement in networked culture making. More specifically they aim to develop practitioners' capacities to notice both subtle and significant changes in software, including the inherent limitations of open source and the controlling forces of proprietary software. Another objective of the booklets involved encouraging community arts practitioners to develop *agility* as well as *ability* – an idea that summarises how CuriousWorks' most effective and appropriate networked solutions combine tacit knowledge of technology with a pragmatist ethic – which leads to the iterative development of individual networked practices, or network literacies.

The booklets offer considerations as opposed to activities, and speculate on imaginative presents and potential future scenarios. This speculative design approach is a Critical Design methodology (Dunne and Raby 2001), and was used to challenge and reconfigure my own relationship with theory and practice. I also used a User-Centred Design methodology so that CuriousWorks played a role in the iterative development of the booklets. Our dynamic was similar to the client/designer relationship, where I developed an initial design, then gleaned feedback from the members of staff in order to develop the next iteration. I directed my experiments to explore the following questions: how might

information design help community arts practitioners understand the emergent modes of connection and participation afforded by digital networks? And, how might design artefacts encourage community artists to develop critical networked practices?

The content was conceptually and aesthetically designed in tandem, iteratively feeding each other blends of form and function. They were distributed as a free PDF via email, listervs, social networks, and media-sharing networks, and are an attempt to translate and archive my findings for future re-use by others. The booklets have become a reference tool for CuriousWorks to develop their own self-reflective practice, an important aspect of action research (Altrichter et al. 2002). The following chapter describes the rationale, critiques the underpinning methodologies, and evaluates the successes, failures, and unintended outcomes of these design artefacts. The chapter concludes with an analysis and recommendations for further resources and activities that are focused on providing critical points of departure for community artists.

6.2 Designing the Experiments: Process

I came to this research project as a community arts practitioner grounded in design. Like other community artists, my particular field of practice played a significant role in the types of projects I implemented. The majority of my projects involved either stencilling or digital projection: both creative activities that require designed imagery that aspires to particular graphic rules. In the case of projection, images had to be designed to enable light to pass through them. In the case of stencils, images had to be designed so stencils would hold together. I

am always intrigued to find ways to use design for creative communication purposes, so it was not surprising that a designed *thing* was a part of my original research proposal.

Beyond designed things being part of my practice, and aligned with the concept of a design intervention, it became necessary as part of my methodology to translate my research findings for those I was researching. I anticipated that community arts practitioners would most likely not read my thesis, or even read my scholarly articles, so designing an artefact that created a bridge between my findings and their day-to-day practices was a priority. Translating my research findings in to something that diverged from traditional academic outputs was my attempt to explore alternative forms of scholarship.

My initial design proposal was an online toolkit. The idea was influenced by the Australia Council's early offerings of resources to community artists. In 1987, the Community Cultural Development Unit began producing kits that included information about setting up projects, key resources, case studies and contacts (*Australia Council for the Arts Annual Report* 1987-88, 21); and in 1987, the Australia Council set up the *National Community Arts Training Unit* (NCATU) to provide advice for "field-based training" (*Australia Council for the Arts Annual Report* 1987-88, 20). NCATU also worked with tertiary institutions to identify and evaluate courses and develop new programs, including new types of resources to support practitioners.

The idea to design digital tools was also inspired by the CuriousWorks' creative commons licensed online toolkit. This resource became the principal exemplar of the practice for this study as not only was it unique in the Australian community arts field, but it exemplified a wider trend toward the web being used as a repository of ideas and resources offered by people who felt inclined to share for various reasons. In an early conversation with Shakthi Sivanathan it became apparent that the toolkit had also been launched as an experiment. He mentioned that some of the ideas for workshops they had posted had not been tested, that they were in beta. I decided to apply this idea to my research. My plan was to devise untested activities, describe them as beta modules, and offer them for free online. The model I was hoping to implement was one where the people who used the activities would become beta-testers, and offer feedback in exchange for the use of my resource. This process formed part of the iterative design cycle in which the artefact undergoes several cycles of design and development. In the context of my study this user testing of beta modules would result in changes that test the relevance to practitioners and strengthen the final outcome.

CuriousWorks viewed their online toolkit as both a success and a failure (personal correspondence, Elias Nohra, September 2012). Once more the company's reputation for being innovative had enjoyed a boost, but the idea that people would contribute to and promote the toolkit fell short of their expectations. An even bigger issue was the fact that toolkit content became outdated very quickly, particularly in relation to software and hardware resources. This provided a further insight regarding the content of my booklet experiments: as digital artefacts they were going to exist beyond the life of my

study. I also needed to consider a digital format that I felt might withstand temporal constraints and changing technologies.

Towards the end of 2011, during CuriousWorks' 3-day annual planning meetings, my design proposal evolved from a web-based toolkit to a portable electronic document. This change was inspired by a discussion about how CuriousWorks had considered making a book to raise revenue, based on the company's perception that schools were more willing to spend money on books than training or digital resources (personal correspondence, Shakthi Sivanathan, December 2011). I then concluded that my target audience – community artists of all disciplines and at varied stages of digital literacy – might find a linear, printable booklet relatively accessible. Other advantages included the fact that no substantial production or distribution costs were involved. This solution was a purposeful design decision that enabled the development of a stable artefact that relied on the PDF format: that began its life as a proprietary file format, but is now an open standard.

After deciding on the new format, I presented the idea to the staff of CuriousWorks. I pitched the booklets as resources to nurture "sustainable networked practices", and offered example titles such as "Manage Your Data" and "Getting Your Head Around The Cloud" (See Figure 3). My proposed outcome was to include three individual booklets. I introduced theoretical perspectives in to the themes, particularly those on network theory and software philosophy. The new approach was still in the early stages of development and needed to be further grounded in CuriousWorks' practices. This was confirmed

in the feedback I received from the staff. A significant part of the proposed solution was ensuring that the booklets would necessarily credit the contribution by CuriousWorks, and that CuriousWorks would be an integral part of dissemination process further establishing the company's potential and commitment to exploring innovative ways of integrating technology and practice. I also pitched the booklets as content for the CuriousClassroom.

Figure 3: Proposal for "Sustainable Networked Practices" booklets (Design: Pip Shea)

One of the ideas central to the new design proposal was the concept of network agency – described in Chapter Three – that is, the process of developing personal boundaries around individual network use in order to maintain conscious action. In order to illustrate the idea of integrating network agency into the booklets I

opted for a LOLcat narrative to illustrate the idea (see Figure 4) to CuriousWorks.

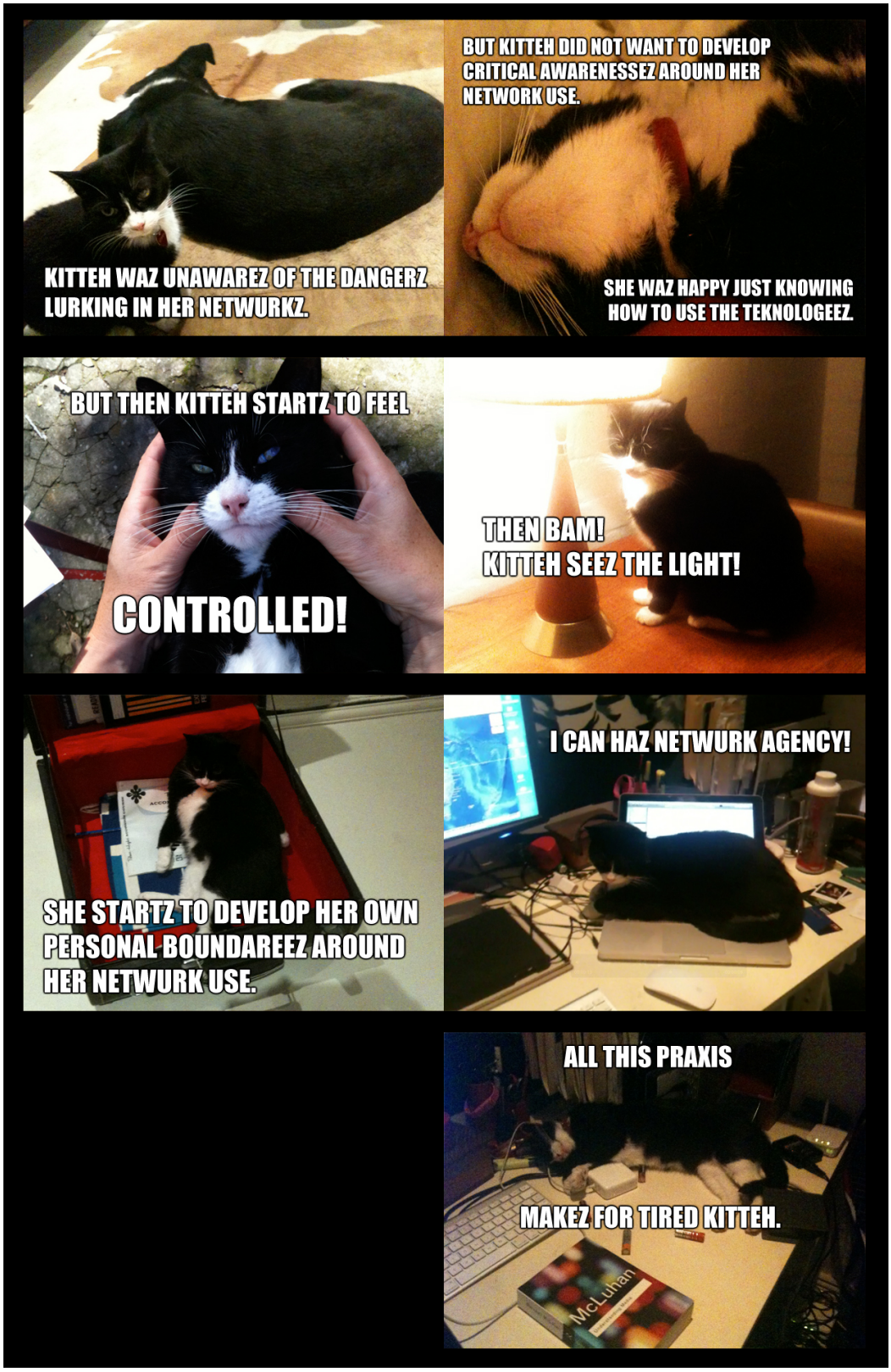


Figure 4: Network agency LOLcat (Design: Pip Shea)

6.3 Designing the Experiments: Practice

After reconceptualising my practical resources as PDF booklets, I moved to the production phase and used visual design techniques to construct the communication of internet praxis. My fieldwork unearthed many different internet practices within CuriousWorks, and before writing up my findings I experimented with several booklet titles that aimed to deal with a variety of different subjects. Shortlisted titles included: *Algorithmic Thinking*, *Crap Detection*, *Contributing to the Digital Commons*, *Networked Art and Social Responsibility*, *Evaluating Networked Projects*, and *Ethical Online Community Management*. After arriving at the taxonomy to describe CuriousWorks' internet practices, I then began experimenting with those categories for my booklets. I eventually settled on making booklets based on the *Developing Online Communities*, and *Practicing Knowledge Brokering* themes. The CuriousWorks staff displayed sustained pragmatism across these categories: they mixed theory with practice, however not necessarily in way that was immediately apparent to them. This gap in awareness strengthened my rationale for creating a method of reflecting their praxis back to them.

This was the first time that I had ever attempted to design a tool that communicated new theoretical concepts. Having been trained as a designer I found it valuable to think about the development of these models as a design process, rather than a building process. The word design describes the process of drawing things together, and can be applied to a variety of assemblages of activities. As a process it "implies a humility that is absent from the words construction and building, as it has no obvious foundation" (Latour 2008);

rather, it is a process of assembling and reassembling in the language of signs, to address a problem. This idea situates making theory as a more playful and agile process, and it sets up the designed thing – the new theory – to be open to interpretation and therefore new audiences.

The design solution had to address two aims: to test the findings of the research project, and to translate the findings to those being researched. I designed two theoretical models: a guide for appropriate approaches to nurturing online community and a guide for co-creating knowledge online. The overarching context of the booklets was described on the front cover as, "Critical Guides" relating to "Community Arts and the Internet". The booklets identified that I had created them, and that they had been inspired by the practices of CuriousWorks. They acknowledged the support of The Queensland University of Technology (QUT), the ARC Centre of Excellence for Creative Industries and Innovation (CCI), and my PhD supervisors. They also situated the works as remixable under a CC license, and provided a web address (communityartsandtheinter.net) that will eventually be the central repository for my PhD research project.

My tacit design knowledge – the result of fifteen years of design practice – played a major role in developing the aesthetic of the booklets. I chose a graphically minimalist style to guide readers through the content, an approach that situates the booklets as communication resources. I had planned to use info-graphics to describe my ideas, but settled on utilitarian information architecture that offers text content as typography: the crafting of text to function as graphic elements. In my final design, I made sure each page conform to a grid that

created consistency throughout the booklet. People tend to like things if they are able to see patterns in them; they seek out patterns and "groove" in them (Anderson 2010). I tried to balance this need for consistency with people's need for new patterns: the brain casts about for new information when there are no new patterns to absorb (Koster 2011).

The five content modules I designed were: *Title*, *Description*, *Theoretical Snapshot*, *Example*, and *Questions*. Once I had committed to these elements, I embarked on an iterative development method that was applied to both booklets:

- Design of the six categories
- Design of the fictional example
- Design of the theoretical snapshot
- Design of booklet title

The content elements emerged dialogically. As each element developed, it communicated something new to the next content element. I began this process in a word processing application, but moved to a graphics production environment as I found myself able to connect with my data and theory deeper through the actual making of the artefacts. The specific idea pitched via the booklets is that they will help community artists and culture-makers nurture "critical internet practices", to develop an understanding of "how to contribute and respond to emergent modes of participation and connection". This is positioned in contrast to the idea that digital literacies are about learning software and making digital content.

The idea that the functions of the internet are increasingly becoming a societal organising principle, was my rationale for applying some network metaphors to the considerations in the booklets. These meta descriptions aim to establish a universal language that translate these emergent networked considerations for non-technical, non-academic audiences: helping them develop "connexionist" viewpoints (Von Busch and Palmas 2006, 67). By elevating these terms from the relative obscurity of network schematics, community arts practitioners might develop network agency – critical engagement with ourselves – nurturing what critical engineer Julian Oliver calls, a more "rigorous personal relationship" with software and digital networks (Bucher 2011).

It was important to me – and to CuriousWorks, and to the integrity and ethical premise of my research methodology – that the booklets were free and offered under creative commons licenses for reuse. I wanted the booklets to be "spreadable" – a phrase coined by Jenkins et al. (2013) to describe a digital artefact that is easily shared – and remixable, as a hat tip to anti-capitalist agitators who have traditionally mobilised around network structures: pirates (shipping networks), Hobohemians (rail networks) and the free and open source software movement (digital networks) (Caffentzis 2010). The decision for this particular ethical position was also based on the fact that I was being financially supported by a university scholarship while I produced the booklets.

As design solutions, the booklets emerged via the influences of a range of existing systems. From the beginning of the process, my two major inspirations were the Tactical Technology Collective and the Institute for Networked

Cultures. The former were using information for advocacy and activism purposes, and helping individuals, community sector and non-government organisations campaign more effectively through visualising their messages; and the latter was using visual design and free PDF booklets to extend the reach of their scholarly work. My booklets also took cues from Mimi Zeiger's (2011) essay *The Interventionist Toolkit*, where she describes how the current recession in the United States is inspiring DIY architectural and design practices that are successful due to their "provisional, opportunistic, ubiquitous, and odd" nature (Zeiger 2011). This description captures the ingredients she sees combining to reconfigure the way people think about and use public and private space.

The design of the logo for the booklet series was influenced by *networkshop* - described in Chapter Two – a workshop exploring critical wireline and wireless networking that formed part of *OPENHERE*, a festival in Dublin that "addressed social, technological and cultural issues surrounding the digital commons" (Oliver and Vasiliev 2012). The logo design takes its cues from a command prompt used in the command line interface: the hash bang (#!). This prompt is used as the initial two characters on the initial line of a script. The other graphic device used in the booklet is the symbol most commonly associated with Hypertext Transfer Protocol (//:).

The booklet dissemination strategy was designed to try and reach both intended and unintended audiences. The application of universal language was an attempt to help this process of *ad hoc* distribution. The booklets were posted on my research blog, before I exercised various methods to point networked individuals

towards the blog so I could apply a monitor to document downloads. As the PDF spread it became difficult to measure the ways it was being distributed. One way I chose to publicise the booklets was through the CuriousWorks blog, which automatically posts to the company's Twitter account. I also posted them on the online community education resource *BuildTheWheel.org*, and the community arts social network *PlaceStories*. I distributed them via listervs; and I disseminated multiple tweets with different hashtags (e.g. #communityarts, #socialenterprise, #digitalliteracies) to attempt to reach a wide variety of Twitter users. I also targeted specific individuals over email.

The booklets I designed created connections with existing online community resources to become a node in a wider, *ad hoc*, internet-mediated network that is nurturing self-directed learning. This "connected learning" (Ito et al. 2013) environment is a permanent work in progress, attempting to configure new descriptions of new methods, underpinned by the structures and dynamics of digital networking technology. The booklets are grounded in practices being formulated in Australia by Australian practitioners, but have been designed to be useful for international audiences across a broad spectrum of practice.

6.4 Experiment 1: Appropriate Approaches to Online Community

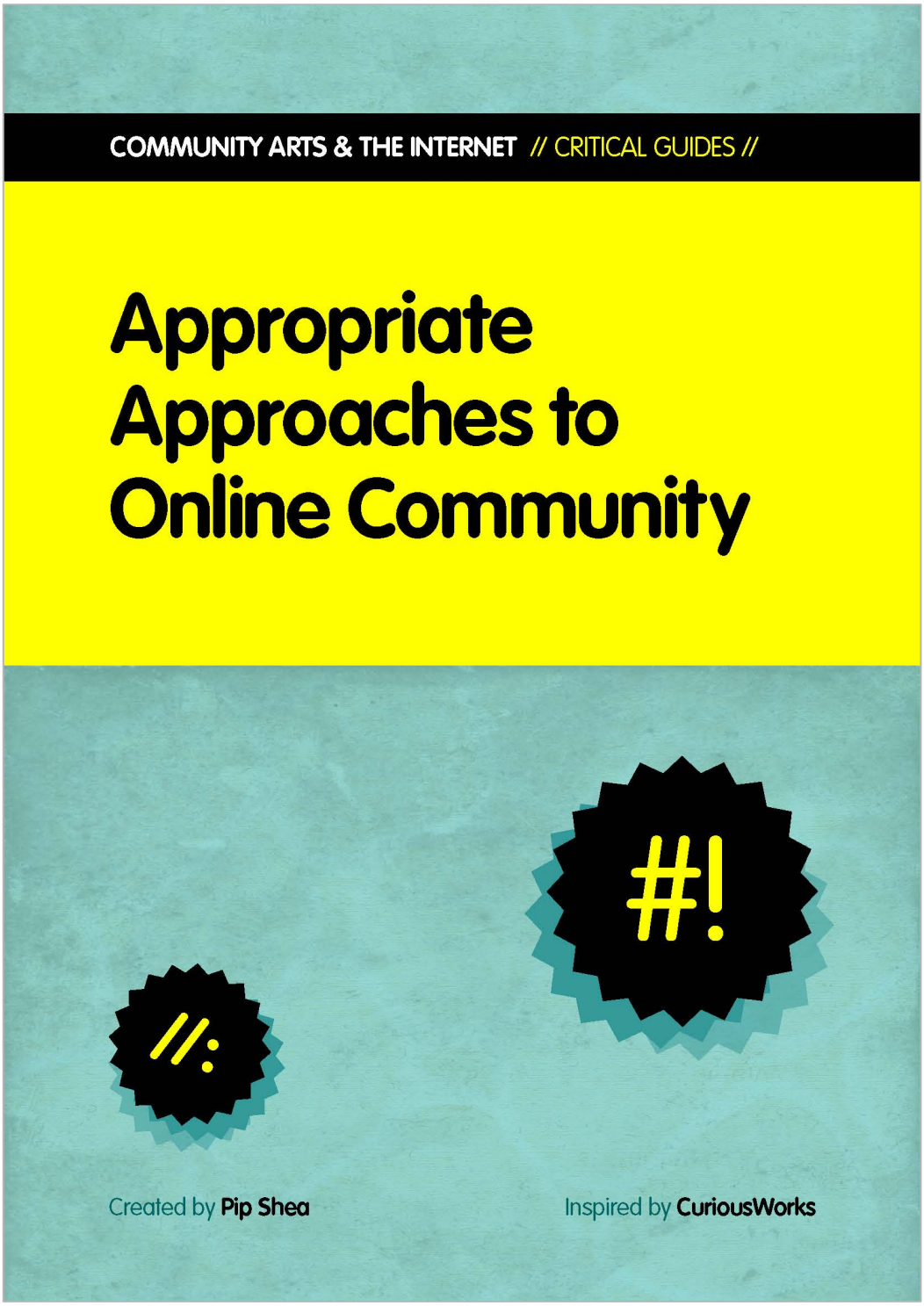


Figure 5: Appropriate Approaches to Online Community front cover (Design: Pip Shea)

6.4.1 Design Rationale

My *Appropriate Approaches to Online Community* booklet experiment (see Appendix 2, p278) was an exercise in shifting constructions of 'community' from the geographically situated to the digitally networked. It aimed to alert practitioners to the differences between appropriate approaches to nurturing online communities, as opposed to place-based communities. The booklet is a thinking tool that offers ideas on how community arts philosophies such as sustainability, usability, and governance, translate in the context of digitally networked communities. My fieldwork revealed that retrofitting these steadfast community arts philosophies to constructions of online community created confusion for practitioners, but that this confusion led to the development of new agilities that better enabled movement between communities of individuals who are connected through place, and networked individuals who are connected through packet data networks, graphical interfaces, and computational devices.

Geographical place and online place are powered by very different structures and dynamics. Geographical place can be an aspect of life that people do not have the option to change. Their movement can be limited due to family responsibilities, or due to the fact that they are too young to live independently. Limitations can also include economic, social, or work-related constraints. It is these geographic-centric aspects of community that artists focus on when they are planning and implementing community arts projects. Other issues that are pertinent to geographic-centric community arts projects are finding space to run projects in, and organising set times for workshops.

When we begin to think about the dynamics powering online communities, the considerations of the community artist change quite dramatically. There are different pressures associated with leaving or remaining in an online community. There is scope for artists to integrate different protocols, platforms, publishing methods and content licensing to create new methods of place making. There are new considerations for combining technologies people are already using with technologies they can learn to use. There is scope to hack or mod software and platform functionality. There are invisible forces at work that can manipulate projects through changing software and terms of use. There are also new considerations for managing and governing online networks.

The booklet's attempt to trigger new thinking around the structures and dynamics of collections of networked individuals, is a task Lovink and Rossiter have been undertaking through their conceptualisation of "organized networks" (Lovink 2005b; Rossiter 2006). They offer this concept to replace the term virtual community – which they see as problematic – and to tease out the emergent interplay between online and offline collaborations. Their organised networks offering is a "draft" proposal calling for collaboration to help steer "disagreement and collective elaboration" (2005b, 19). Lovink and Rossiter's organized networks supports my focus on appropriateness as a critical approach to online community, as an organised network's "institutional logic is internal to the sociotechnical dimensions of the media of communication" (2005b, 19). In other words, the way an online community might format its guidelines and ways of operating is specific to the social and technical factors associated with it.

The booklet experiment is underpinned by the philosophy that "networks are ideal Foucault machines" in that they undermine power while producing power (Lovink 2005b, 18), and so it was designed to counter rhetoric and practices that uncritically champion digital networks and their emancipatory potential. The booklet engages community artists with philosophies of software and networks to minimise the risk of inappropriate technology being implemented in community arts projects. This push for praxis is the obvious method for developing appropriate technology – as appropriate technology implies a critical approach – which reinforces the central proposition of my thesis: that it is time to ground the community arts ethic of sustainability in the idea of the materiality of software and networks.

6.4.2 Design Output

My booklet *Appropriate Approaches to Online Community* (see Appendix 2, p278) was an intervention that combined data about the online community practices of CuriousWorks, with scholarly perspectives that critique digital networks. It explores multiple aspects of making networks, to help practitioners develop appropriate internet technology: networked solutions that take the specific needs of individuals and communities in to consideration. The guide promotes critical approaches to online community building, to encourage the continuation of creative practices beyond community arts projects.

The guide offers six considerations (see Appendix 2, p. 280), to help practitioners pragmatically identify online community criteria associated with individual community arts projects. These thinking tools broadly aim to

communicate the idea that the sociotechnical nature of digital networks leads to many different types of online communities. The six considerations as they appear in the booklet are:

1. Longevity, the network's shelf-life;
2. Interoperability, whether the network 'talks' to other relevant software;
3. Usability, the experience of the user;
4. Hackability, whether the network can be modified;
5. Invisibility, the less visible implications of use; and,
6. Governance, community guidelines, voice, and community management.

Each of these six themes were explored through 3 content modules:

1. A theoretical perspective;
2. An example in practice; and,
3. Questions to guide the practitioner.

The first consideration, "*longevity*, the network's shelf-life" (see Appendix 2, p. 281), is a trigger for the community artist to estimate how long the online community will remain in use. This idea emerged from Lovink's (2005b) *Principle of Notworking*, where he draws on Spehr's concept of "free cooperation" to develop the idea that the option to "log out" is at the very foundation of online activities (2005b, 12). Through framing participation in an online community as something that will ebb and flow, the notion of the temporary network is legitimised in the community arts context. This means that the planning of either a temporary, or an ongoing online community, sees the community artist better placed to make decisions about suitable technological solutions, based on criteria such as software stability, ongoing costs, and human

resources. Thinking about the longevity of the online community also pulls focus on the social implications of having a sociotechnical resource that is there one day and gone the next, and reinforces the idea that it is the "interface between the real and the virtual world" that determines the type of collaboration likely to emerge in the online community setting (2005b, 17).

The example I developed to extrapolate this longevity perspective, described a scenario where a community artist chose to attach her project to an existing online community. The artist, Fatima, was running a Scratch project with a group of 14 year old girls (Scratch is a programming language that makes it easy to create interactive media). In the example, her decision to use the Scratch online community was linked to her feeling that the individuals participating in the project had a level of creative agency that enabled them to engage with a wider media sharing network.

The three questions that follow the above example encourage community arts practitioners to identify reasons for making their network temporary or ongoing, while helping them to consider what level of stability is required from software and hardware technologies. The final question encourages practitioners to manage their own expectations regarding the level of participation that may or may not take place within the online community.

The second consideration, "*interoperability,* whether the network 'talks' to other relevant software" (see Appendix 2, p. 282), hopes to reveal how there are both challenges and opportunities afforded by interoperable systems, as outlined by

Gasser and Palfrey (2007). In their paper, *Breaking Down Digital Barriers: When and How ICT Interoperability Drives Innovation* (2007), they describe how having the lines of communication open and flowing between different software and hardware can be perceived as having both potential benefits (mediating innovation and encouraging competition), and potential drawbacks (issues surrounding security, privacy, and accountability). The purpose of bringing the politics of interoperability to the attention of community artists is to help them incorporate different types of proprietary and open source software systems. Another aim was to introduce interoperability as a metaphor for creative ideas and content offered in to the public domain for reuse and remixing.

The example I established to anchor the notion of interoperability, described a locative media project whose participants were refugees and asylum seekers. The challenge for the community artist in this instance, was to find an augmented reality app that was available on all the major mobile operating systems, that displayed remixed music videos, and could interface with a popular online mapping software service.

The first question offered in the interoperability section suggested the practitioner think about whether a particular project might benefit from using network technologies that offer interoperable protocols and formats. The question of how a practitioner might preempt issues arising due to interoperability was also offered as a provocation, along with whether the network technologies chosen allow creative content to be interoperable: for

example through licensing schemes such as Creative Commons.

The third consideration, "*usability,* the experience of the user" (see Appendix 2, p. 283), does not refer to how easy a particular technology might be to *use* – as it is sometimes contextualised – rather, it describes the process of assessing the needs and potential desires of project participants. This section highlights that a balance must be struck between choosing technologies participants can use, and technologies they can learn to use, and offers Hearn and Foth's (2007) notion of "communicative ecologies" – the various devices and applications they already use to communicate – as a method to help ascertain participant capabilities. By developing a picture of existing technologies, practitioners are less likely to make assumptions about what people are using, how they are using it, and what they might want to use.

The example I devised to ground the idea of usability in practice, described a digital animation project with a group of young men. Due to the nature of the project, the artist decides that a temporary online community is the most appropriate way to frame the media sharing activities the men will be participating in. Based on observations of the communicative ecologies of the group – particularly in relation to their use of the internet – she also concludes that the software mediating the online community must have decent support for a variety of different mobile phone operating systems.

The questions suggested in this content module challenge practitioners' assumptions about participant capabilities, by seeking out the reasons behind

technology choice and use. Practitioners are asked to think about what kinds of technology participants have access to, in relation to what kinds of tools and technology they might respond to. They are also encouraged to consider how participants might want to become involved in an online community or network.

The fourth consideration, "*hackability,* whether the network can be modified" (see Appendix 2, p. 284), is offered as a method for community artists to manipulate software and hardware tools beyond the original intention of the designer/programmer. It is a provocation that encourages practitioners to embrace small interventions, to overcome the limitations of software platforms. Hackability is promoted as an overtly critical activity, albeit one that can happen in an entirely legal context. Von Busch and Palmas (2006) are cited in the booklet to establish how the hacking process – in relation to the internet – brings "political questions back in to the light, subverting closed and hidden functions and uses of networks" (Von Busch and Palmas 2006). The idea of hackability has featured prominently in scholarly discussions concerned with the politics of 'open' and 'closed' devices and platforms (Zittrain 2008, Burgess 2012). Arguments often reside on a spectrum where at one end you see the championing of open systems that enable modifications to software code and hardware components, and at the other end, you see support for the corporate enclosure of networked technologies, in the name of stability and security.

The example illustrated in support of the idea of hackability, describes a community arts project that uses the Flickr photo-sharing platform to develop an online community. The rational for choosing this platform was that it had an

open API (application programming interface), which allowed for accessible, legal modding of the service. This decision proved the most appropriate for the project, as the software required small modifications in order for the participants' ideas to be realised. The story ends with an anecdote about a computer science student being employed to help the group with their photo-sharing project. This is included as a reminder that what might seem like an impossible programming task for the community artist or participants, might be a simple, and relatively inexpensive one for a person with the appropriate skills.

The questions in the hackability module ask the community artist to think about their own modding capabilities, while encouraging them to think about how research and experimentation might help them develop new skills, and ways of seeing new avenues for problem solving using networked technologies. Artists are also asked to think about how they might collaborate with others to mod technology.

The fifth consideration, "*invisibility,* the less visible implications of use" (see Appendix 2, p. 285), looks beyond what is termed the application layer of digital networks – the part of network infrastructure that is most visible to users such as software interfaces – to expose the other six layers: the physical layer, link layer, network layer, transport layer, session layer, and the presentation layer. The purpose of this excavation is to reveal the multiple human and non-human actors that affect network use, such as software protocols, government policies, and the private companies who own the submarine cables that carry network traffic. By helping to make these structures and dynamics visible, community artists may

become more critical of the technologies they chose, as they can better assess how the various levels of network infrastructure might affect their projects and participants.

The example designed to help trigger thoughts about the less visible dynamics of digital networks, uses the case of a digital storytelling project with LGBT participants. The scenario describes the quandary faced by a community artist who needs to protect the anonymity of her participants within the online media sharing community she wants to develop. The artist luckily has an awareness of the commercial practices of some of the most popular social media platforms: she knows they sell information to third party advertisers who create user profiles associated with computer IP (internet protocol) addresses, and that this can lead to targeted internet advertising that has the potential to reveal sensitive information. It is for this reason that the community artist settles on installing an open source blogging platform on her own server.

The questions relating to this fifth consideration – invisibility – are designed to help practitioners think about how the structures and dynamics of networked technologies affect community arts participants and projects. They are encouraged to articulate who or what they think controls different configurations of networked technology, and are asked whether the project they have in mind is an appropriate fit for the terms and conditions outlined by the service provider. Practitioners are also faced with the question of whether theirs, or their participants' security or privacy is being compromised by the implementation of a commercial or proprietary networking technology.

The sixth consideration, "*governance,* voice, community guidelines, and community management" (see Appendix 2, p. 286), situates the idea of managing online communities within community arts projects. There are many different styles of community management that can be implemented, so developing shared understandings between project stakeholders about tone, community guidelines, and the regularity of intervention in the community, is offered as a method to plan the necessary financial and human resources. Practitioners are encouraged to be pragmatic about constraints they feel might affect the governance of the network, and are also reminded – by a quote from Jono Bacon, the author of *The Art of Community* (2009) – that "governance does not suck" (Bacon 2009, 213).

The example offered to ground this consideration in practice, describes how a community artist plans to build a password protected online community, she hopes will facilitate ongoing, networked sharing activities. The scenario uses the familiar community arts organisational form of the steering committee to situate the project stakeholders, before discussing the governance decisions they arrive at: for example, they recognise the need for a part-time community manager, and commit to funding this type of role.

The questions I devised to help practitioners consider the governance of online communities, aim to provoke critical and pragmatic thinking. Setting the tone of an online community can also be seen as an important creative decision, so practitioners are encouraged to approach this appropriately. The questions are

also offered as triggers for thinking about community guidelines, and ways to manage the network.

The booklet culminates in an "*open conclusion"* (see Appendix 2, p. 287). I chose this term to reflect the context specificity of appropriate technology: the idea of appropriateness remains open until tied to a specific set of goals and objectives. The remarks in the conclusion broadly aim to promote practitioner reflexivity, to encourage critical reflection of personal experiences of technology. Practitioners are encouraged to readjust their practices, improvise, and create or dismantle boundaries, so that they may become more open to designing what appropriate technology scholar Alan Drengson describes as, collaborative systems that are "an artful fit between technique, tool, human, moral, and environmental limits" (1982a).

6.5 Experiment 2: Co-Creating Knowledge Online

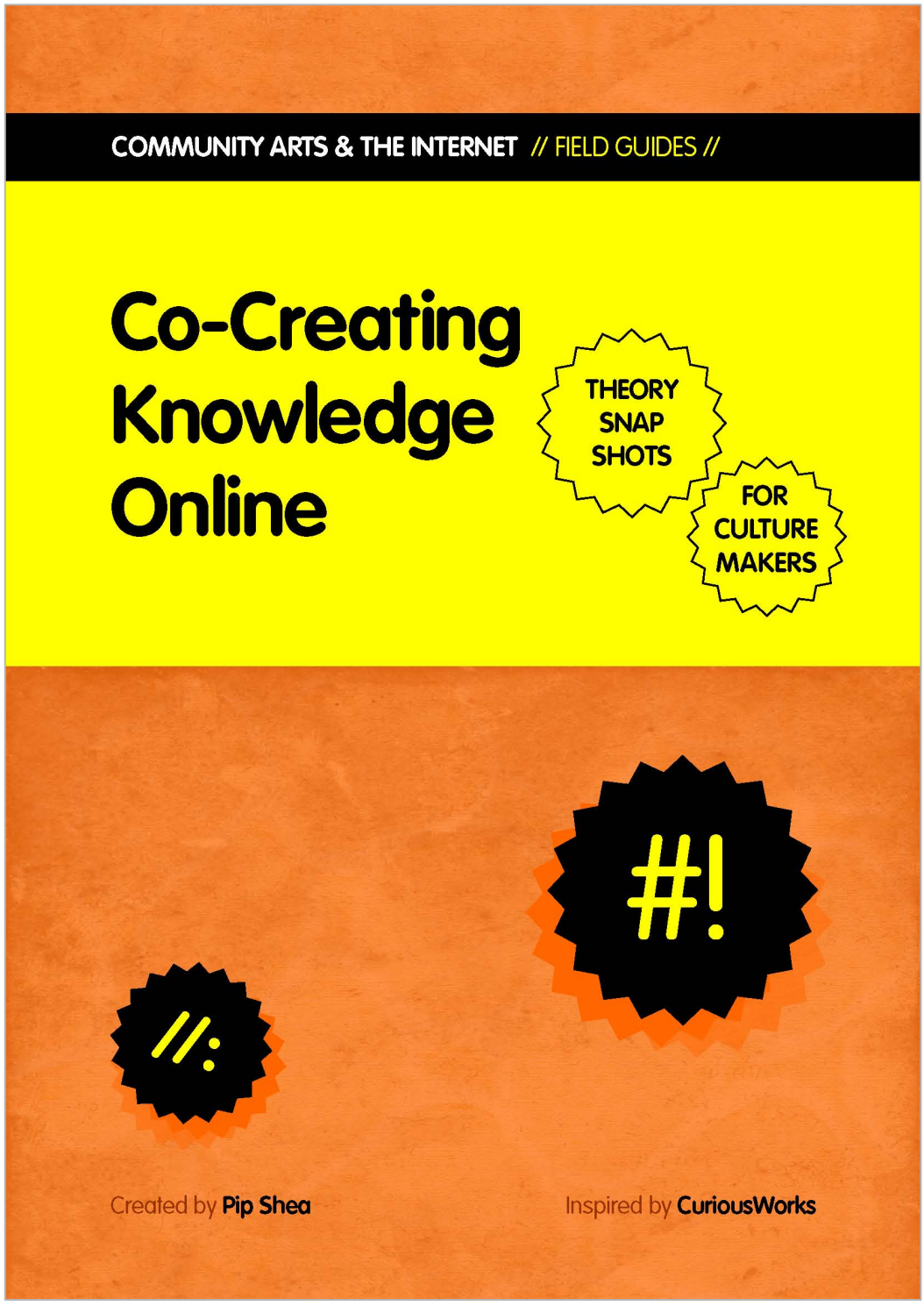


Figure 6: Co-Creating Knowledge Online front cover

(Design: Pip Shea)

6.5.1 Design Rationale

My *Co-Creating Knowledge Online* booklet experiment (see Appendix 3, p289) helped me distill and repackage praxis associated with networked knowledge sharing and co-creation. It offered a guide for those practitioners interested in better utilising the internet to connect, share, and make new knowledge. It builds on the premise that people have become increasingly networked as individuals rather than in groups (Rainie and Wellman 2012), and that these new ways of connecting enable new modes of peer-to-peer knowledge co-creation. The booklet was developed on the premise that forming peer alliances to share and build knowledge is an important aspect of community arts practice; however, different methods are required to foster the sharing and organising activities that underpin online knowledge co-creation.

Traditional modes of community co-creation are powered by very different structures and dynamics to manifestations of online community co-creation. Schuler's (2010) work around community networks, sheds some light on this transition. He proposes the declining influence of traditional community networks, might be addressed through new ways of thinking and being he describes as "civic intelligence". His position stems from his work in the 1990s, where he documented the social change effects of community network initiatives such as Free-nets[34]. Schuler argues that just as early networks enabled grassroots community reform, so too will the community networks of the future – so long as networked individuals have the capacity to consciously adapt, shape, and sustain their environments. This experiment can be thought of as an exercise in

[34] Free-nets were public computer systems that facilitated access to community information through text-based dialup.

offering thinking tools to consciously adapt, shape, and sustain networked environments for the purposes of co-creating knowledge.

My aim was to make a guide that pitted traditional knowledge sharing practices with online knowledge sharing. This tangent echoed the entrenched community objective of aggregating information that focused attention of community matters (Schuler 2010). My sense that network broking practices were important for community arts was in response to emerging issues surrounding the filtering and curating of big data. I hypothesised that community artists could position themselves as what Weaver and Ford (2013) call "responsible circulators": people with the skills to "independently assess the validity of what is being shared with them and to carefully choose what they share with others".

I had originally conceived the booklet as a derivative of my fieldwork category, *knowledge brokering*. The word brokering connotes the actions of someone who is negotiating some kind of deal by facilitating a give-and-take scenario between multiple individuals/parties. My original conception of the online knowledge broker was as circulators of alternative narratives. My strategy was to situate community arts as an alternative practice working to nurture alternative cultures. I drew connections to other fields of practice that espouse alternative futures, in an attempt to highlight how a new, networked, knowledge-sharing ecosystem is emerging. After establishing this I tried to position community artists as contributors to this system of connected, alternative knowledge offerings, as a method of facilitating the inclusion of the disenfranchised (the movement to embrace alternative routes).

I came to realise this circulator role could be reframed as part of a method of online co-creation. I began thinking about how the knowledge brokering practices of CuriousWorks fed into their processes of co-creation; and also how their internal digital infrastructure practices functioned to support knowledge co-creation. The Geeks in Residence project came to mind due to the fact that CuriousWorks were in a consulting role that saw them impart their knowledge of networked communications and collaboration practices. Through observing this project, I hypothesised that the field was yet to move beyond situating the internet as a platform for dissemination and a tool for co-creating media: that they hadn't embraced the knowledge collaboration potential of the web. So through the booklet, I decided to position knowledge co-creation as another string for the bow of the community artist, along with co-creating art and media.

By folding the knowledge brokering and internal digital infrastructure categories in to the co-creating knowledge frame, I felt I could offer the field a more helpful tool. The booklet's close association with collaboration and partnerships – an integral part of community arts practice – meant that it was immediately relevant to the sector. Plus, the notion of knowledge brokering felt too nebulous a handle for the sort of communication exercise I was designing. My next move was to devise ideas to improve CuriousWorks' online knowledge brokering practices by grounding them in theory.

6.5.2 Design Output

The booklet *Co-Creating Knowledge Online* (see Appendix 3, p289) was deployed in a similar form to the *Appropriate Approaches to Online Community* intervention. It combined participant observation data from the field with scholarly perspectives, to investigate the dynamics and affordances of online knowledge co-creation. My objective was to expose community artists to networked methods of sharing, organising, adapting, and reconfiguring knowledge, so that ideas and resources relating to their field might develop as part of a culture of social learning.

A similar information architecture blueprint was carried over from the first experiment. Some changes were made to the information and visual design:

1. The addition of 2 new graphic elements to the front cover that communicated that the booklets were "Theory Snapshots for Culture Makers";
2. The addition of an infographic to visualise how the six methods for online knowledge co-creation were split in to 3 development phases;
3. The addition of graphic devices to individual pages to indicate which of the three phases the content relates to;
4. Colour coding of the individual pages to relate them back to the relevant development phase;
5. Using endnotes instead of citing authors in the body copy;
6. The addition of a "HALF WAY" visual; and,
7. A series title change from "critical guides" to "field guides".

Separating the co-creation process in to 3 development phases (see Figure 7) – "developing connections", "developing ideas", and "developing agility" – was an attempt to reveal its varied facets, and the different types of activity and engagement each stage depends on. The two-way arrows and red lines that connect the three phases in the infographic, aim to situate and reinforce how the co-creating knowledge process is dialogic, not linear or sequential.

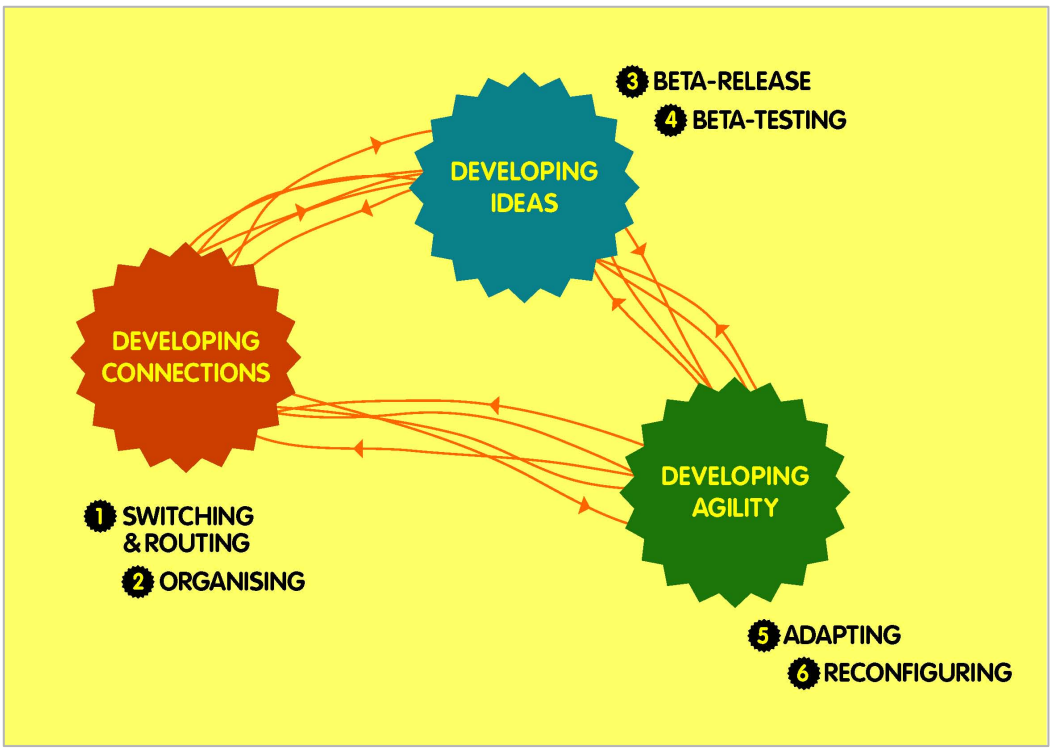


Figure 7: Infographic from Co-Creating Knowledge Online booklet (Design: Pip Shea)

The guide offers six methods (see Appendix 3, p291) to help practitioners pragmatically share and collaboratively build knowledge. The six methods as they appear in the booklet are:

1. Switching and Routing, exchanging small trades of ideas with networked individuals;
2. Organising, coordinating networked individuals and their data;
3. Beta-Release, offering 'beta' artefacts as knowledge trades;
4. Beta-Testing, trialing and modifying other people's beta artefacts;
5. Adapting, responding to technological disruption; and,
6. Reconfiguring, embracing opportunities offered by technological disruption.

Similarly to the first booklet, these six methods were explored through 3 content modules; however, to reinforce the idea that the theory was grounded in practice, I switched the position of the example and the theoretical perspective:

1. An example in practice;
2. A theoretical perspective; and,
3. Questions to guide the practitioner.

The first method, "*switching and routing,* exchanging small trades of ideas with networked individuals" (see Appendix 3, p292), captures the idea that digital networks connect multitudes of people, and that this positions them well to trade knowledge with each other. The method focuses on small trades, simple acts of sharing in the hope that individuals will receive something of value in return: more ideas, new feedback, or stronger connections with other individuals. This notion of receiving dividends from sharing via networks is well articulated in Benkler's influential text, *The Wealth of Networks* (2006). "Switching" – moving packets between devices on the same network – and "routing" – moving packets

between different networks – are metaphors I use to help conceptualise small exchanges of knowledge. I define switching as informal, peer-to-peer communications over social networks, and routing as the process of finding new routes for new systems and ideas to encourage knowledge spillovers in to new networks. In the book *Communication Power* (2009), Castells also uses the switching metaphor, but his definition aims to capture a more overarching power dynamic within the global network society (Castells 2009, 52).

The example I developed to introduce the method of switching and routing, was an anecdote that described a community artist's frustration with the constantly changing interface and terms and conditions of a popular social media sharing network. The practitioner turns his frustration in to an appeal for ideas about alternative media sharing platforms, via his social network on Twitter. This action initially looks like an act of switching, but the artist then adds several hashtags to his tweet, which sees his message redirected beyond his own network. This act of switching and routing, offers new information to some, and to others it poses an opportunity for dialogue, or to feed back their own experiences. The example also intends to promote the idea that the monitoring of terms and conditions of software platforms can play a role in the assessment of appropriate technology.

The questions associated with this module, begin with a simple request to distill what type of information the community artist wants to communicate. They are then encouraged to think about which networks of individuals they are trying to communicate with. Finally they are challenged to think about how they might

trigger a knowledge spillover in to a new network of individuals.

The second method, "*organising,* coordinating networked individuals and their data" (see Appendix 3, p293), reveals the potential of digital communications networks to help us organise ourselves. From facilitating the arranging of our face-to-face meetings, to recontextualising our digital media via metadata, knowledge has the chance to grow and develop exponentially through new configurations of people designing new configurations of information. This method uses Brown's (2006) notion of "communities of promise" to trigger imaginaries that see networked individuals collaborating in the authorship of futures. It also references Sennett's (2012) proposal that social momentum helps sustain networked organising activities, and offers Rossiter's (2006) notion of "fleshmeets" – face-to-face meetings – to maintain the momentum behind collaborations.

The example offered to ground this method of organising in practice, tells the story of a community artist who wants to draw geographical connections between grassroots arts projects. She devises several methods to encourage artists, and community arts participants, to add geotags to content they upload to the web. This way, material from any number of practitioners and participants will automatically appear in a Google map she has set up. The community artist in question organises a fleshmeet, as she feels it is important to engage some peers in a face-to-face meeting, to further establish the project.

The questions suggested in this content module challenge practitioners to think

about how they might reorganise existing data, to reveal new connections, and develop new narratives. They are also encouraged to think carefully about the timing of fleshmeets, and also to identify the expectations of collaborators.

The third method, "*beta-release,* offering 'beta' artefacts as knowledge trades" (see Appendix 3, p294), describes a process of online co-creation that solicits feedback from networked individuals in exchange for an untested digital resource. I situate this activity as another way to trade ideas online, albeit one that requires more of a commitment than switching and routing. The idea of offering artefacts for beta-release, draws on Gauntlett's (2011) proposal that making things to share online is a craft process that situates artefacts in a social dimension, and that making is a process of connecting in and of itself. The method also describes how the beta-release establishes rules for participation, and specifies guidelines for attribution (Hyde et al. 2010). It then proposes that artefacts or ideas offered for beta-release replace notions of best practices with 'beta' practice, helping to legitimise emergent, iterative processes of collaborative knowledge making.

The example I established to anchor the notion of the beta-release, told the story of a community theatre practitioner who made a workshop plan publicly available on her blog. The practitioner offers her workshop plan as a free PDF, and asks for feedback in return for its use, specifying that she will acknowledge any contributions she receives. The scenario also described how the practitioner used the feedback and analytics data in her project's funding acquittal, to make the claim that her project contributed to her field of practice.

The questions following this anecdote were designed to help practitioners consider the challenges and opportunities afforded by the beta-release. They were asked to consider what value their beta idea/artefact might offer someone, and how they might garner specific feedback from this cohort. Practitioners were then encouraged to think about the ways in which these beta-testers might modify their idea/artefact, and whether the level of complication associated with such a modification processes was appropriate.

The fourth method, "*beta-testing,* trialing and modifying other peoples 'beta' ideas" (see Appendix 3, p296), describes the process of offering suggestions for changes, or directly changing, a beta-release. I situate these people as hackers, using the term loosely to describe those who disrupt and modify the world around them to establish new and unofficial narratives (Wark 2004). I also describe beta-testers as scavengers who glean the web for experiments that might prove useful for their purposes, but who also respect the boundaries and conditions attached to a beta-release. This method acts as a reminder that digital networks offer an unimaginable array of resources that can be used by community artists to develop their own ideas, providing they embrace the spirit of knowledge co-creation by reusing ethically.

The example offered to trigger thoughts about beta-testing, saw a community artist implement a virtual spray painting project; technology he learned how to assemble from a YouTube tutorial. The original creator of the tutorial had requested response videos from people using his ideas, so the community artist

created a video of how he had assembled, and modified the original infrared spray painting technology. The response video created by the community artist was his way of thanking the original creator, who in turn showed gratitude by posting the community artist's response video on his blog.

The questions following this anecdote situate the community artist as a beta-tester, challenging them to develop methods to glean the web for 'beta' artefacts. They are encouraged to imagine different ways they might appropriate 'beta' artefacts, while building in processes to feed new assemblages and processes back to those who offered the original resource.

The fifth method, "*adapting,* responding to technological disruption" (see Appendix 3, p297), encourages community artists to develop the capacity to adapt to disrupted knowledge exchange systems. This method was devised to address the community sector's reliance on free social networking platforms, by encouraging practitioners to develop peripheral vision around changes to things like software interfaces, terms and conditions, and corporate take overs: sociotechnical actors Barzilai-Nahon (2008) identifies as network gatekeepers. Nurturing this type of awareness in oneself is prosed as a way for practitioners to preempt disruption to knowledge exchange workflows, and to better identify when technology is shifting from being appropriate, to inappropriate. The precarious nature of some software systems is also highlighted as a reason to keep project content portable, or agile, so it can be transposed to other platforms.

The example I offered to anchor the idea of adapting saw a community artist

preempt the demise of a free, commercial software platform several months before the official corporate announcement. The practitioner and his coworkers had been using the service as a communications and co-creation tool, collaboratively developing grant applications, acquittals, and workshop plans. After hearing the service had been bought by a larger technology company, he correctly assumed that programming resources would be redirected. So his company migrated their content to another platform then stopped using the service all together. The practitioner's foresight enabled the company to implement change management processes before many other users of the soon to be defunct service.

The questions attached to the notion of adapting, aimed to prepare community arts practitioners for the inevitability and implications of sociotechnical disruption. They were asked to imagine how their knowledge co-creation and exchange systems might be affected by a corporate owner; they were encouraged to assess the appropriateness of their tools after changes occurred due to sociotechnical disruption; and, they were questioned as to how they might keep their data agile.

The sixth method, "*reconfiguring,* embracing opportunities offered by technological disruption" (see Appendix 3, p298), offers Stark's (2009) view that perplexing situations provoke innovative inquiries, as a productive outlook on technological disruption. The method encourages community artists to harness the reconfiguration opportunities afforded by technological change to re-think ideas, re-evaluate methods, re-make artefacts, and co-create knowledge. It also

stresses that action is often made possible precisely because of unstable ground, and that this is a fertile environment for ongoing innovation.

The example illustrated in support of the idea of reconfiguring, is a knowledge transfer project where two community artists create a conference presentation together. After the software service they are using suffers a security breach, they look around for an alternative system. They both conclude that the disruption was a blessing, as the new service enabled them to express themselves more creatively, which aided the collaboration.

The questions I devised to help practitioners see technological disruption as an opportunity as much as a challenge focused on identifying methods of, and evaluating reconfiguration processes. They were asked to identify whether a particular disruption was an opportunity for re-thinking, and reconfiguration; how they might proceed with such a process; and, whether or not reconfiguration after disruption resulted in better methods and tools.

The booklet *Co-Creating Knowledge Online*, also culminates in an "*open conclusion"* (see Appendix 3, p299). The remarks in this section summarise the benefits of engaging with different modes of knowledge exchange, in the hope that new cultures of learning and sharing develop. The processes of trading knowledge are restated, as are the ideas behind organising networked individuals. Establishing rules for participation in 'beta' co-creation is also reinforced, as are ideas for seeing technological disruption as a productive force for knowledge co-creation.

6.6 Preliminary Feedback and Dissemination Strategy

Preliminary feedback was gathered during interviews with CuriousWorks before the first booklet was publicly released on the internet. One of the first elements to change was the title of the booklet. Originally titled, *Network-Making: Designing Appropriate Network Technology*, the booklet promoted that it was part of a series called *Digital Network Field Guides for Community Artists and Educators*. Elias Nohra had fed back to me that the word 'network' was nebulous and therefore confusing (personal correspondence, Elias Nohra, September 2012). So I renamed the soon-to-be series, *Community Arts and the Internet*, and changed the booklet title to, *Appropriate Approaches to Online Community*. This label drew directly from my coding category, *online communities*, and sat well with CuriousWorks' practitioners as 'online' is the word they use to describe accessing the internet.

Nohra also stressed that I should try and make the content in the booklet as robust and long lasting as possible. His concern was that I would not have control over the longevity of the resource, and that it might be in circulation for a long time. He explained how this feeling emerged from his experience with the CuriousWorks toolkit, and how he felt embarrassed by content he had written: "it's not relevant anymore and I was like why did I waste my time on that" (personal correspondence, Elias Nohra, September 2012).

Nohra also described how the *longevity* consideration gave him new ways to think about the sustainability of online community networks. The following dialogue describes how the booklet triggered discussions around traditional

community ethics of sustainability and a questioning of how this ethic maps to online:

> PS This first consideration, longevity, explores the idea of a network only being around for a couple of months, like a pop up store.
>
> EN You've got me thinking. I've talked about how networks work in really short bursts - great - maybe that's all they are? And maybe there needs to be different strategies for long term engagements? Coz we want things to be long, but we don't have control over that, and we don't have resources to do that. If we could just focus, focus, focus, we might be able to push something longer than it might have previously existed, but I don't know if there's any worth in that? But isn't temporary terrifying as well because you're investing time and money into things and the notion that it's a temporary thing is too kind of, what's the point almost?
>
> PS Does this shift your thinking about what tools you might use?
>
> EN Yeah, you have to use the free stuff. It's a really good consideration.
>
> PS It's particularly interesting coming from a CCD philosophy, where there is such an emphasis on long-term outcomes. That aspiration is great, but does it necessarily have to relate to online community networks?

Nohra also asked me whether interoperability – the third consideration – was actually a word. I told him that it was and that it was a term that is used in software development circles. A discussion followed about whether community artists might develop more accessible language to describe these 'networked' concepts. But I also put my case forward for using technical terms as metaphors;

using them to create an added bonus where people were simultaneously learning about the structures and dynamics of networks. Nohra replied, “Shakthi and I had this conversation where we used the word ‘modular’, but we were both talking about very different things. The word modular is the perfect word to get confused on”. Nohra then proclaimed, “Aw, your work is good! You can't work with us. You need to make more stuff. You need to do more of this stuff”. I replied, “But I do need to work with you, because you're actually in the field. He responded, “No you need to build the lexicon and the fuckn theoretical framework” (personal correspondence, Elias Nohra, September 2012).

During a booklet feedback session with Shakthi Sivanathan, this idea of a need for a new language of networks came up again. Sivanathan said, “Dude if you had some time to help us to design our language for Curious Classroom it would be so good. The beginning of next year is when we'll be in deep, deep thought about it and we've got funding to have a little lab”. I replied, “I'd love to. It would be helpful for me as well” (personal correspondence, Shakthi Sivanathan, September 2012).

Sivanathan also told me that he was excited by the prospect of us helping each other, “Wow, it will be so cool if your booklet was actually able to help us design networks. Even if it doesn't, or half does it, or we feel we want more, we'll let you know. This will be a critical period for us. So I'd love to get a lot of stuff right”. He also told me he thought it was great that I’d made the booklet. He observed that it had been a good process for me, being both a researcher and a community arts practitioner. We also agreed there had been excellent learning

exchanges as a result of me being involved in the company. Sivanathan placed a caveat on this situation by saying that it worked because there were “bridges on both sides” (personal correspondence, Shakthi Sivanathan, September 2012).

Other feedback I received from Sivanathan was that he thought the booklets were “a great idea” and that he “loved the friendly, open, look and feel”. He mentioned he thought the language was too academic for some parts of the social economy, and that this might be a “roadblock”. He offered the suggestion that “real world examples for each of the 7 points would bring it home for people”, and that “it might be worth explaining just what a *network* is at the beginning of the booklet and why they're useful”. He also admitted that he felt he had to remain open to the booklets as “the whole reason CuriousWorks started was about theory”. He then added, “And you have to remember that the whole reason you went in to theory is because you care about the world. And not forget that part. And then the bridges can be formed”. He concluded his feedback by mentioning he was “very much looking forward to version 2” (personal correspondence, Shakthi Sivanathan, September 2012).

I received a very small amount of feedback regarding version 1 of the first booklet from the two other staff members, Eleanor Winkler and Mark Taylor. Winkler had told me she didn’t really think it was relevant to her practices so she hadn’t looked at it; and I was unable to gather feedback from Taylor as he had been in a remote Aboriginal community at the time I was conducting my interviews.

My main dissemination point for the booklets was my personal blog, a site I have used to collect research related media since 2007. I posted the booklets here partly so I could try to count downloads, but also to initially situate the booklets in an informal environment while they were in development. With the first blog post – and download counter – in place, I began publicising the booklet. I sent messages out to networked individuals via my own personal Twitter account. This led to sixteen retweets that spread the booklet beyond my own social network. Nine Twitter users also favourited the tweet. I also sent messages out via the CuriousWorks' Posterous blog, which automatically posts a message to the CuriousWorks' Twitter account. I posted a link to the booklets on PlaceStories, a storytelling media-sharing platform, and my supervisor, Jean Burgess, posted a link on her research project blog, *Co-creative Communities*. I also publicised the booklet via four listservs: Unlike Us[35], Fibreculture[36], Nettime[37], and the Association of Internet Researchers[38]. Interestingly the link I posted on my own Google+ account led to an ex-colleague, John Jacobs, re-posting the booklet on the creative media-sharing platform, ABC Pool. This was a fortuitous spreadable moment as with this added reach came a reminder not to place too much emphasis on my own download counter. I saw this loss of potential evaluation data as a positive.

I received feedback from CuriousWorks educator Mark Taylor, 2 months after I posted the beta-release on my blog. He replied in the comments section of my

[35] Unlike Us is a listserv focused on alternative approaches to social media.

[36] Fibreculture is a listserv dedicated to digital media, networks, and transdisciplinary critique.

[37] Nettime is a listserv focused on networked cultures, politics, and tactics.

[38] Association of Internet Researchers is an academic society dedicated to the transdisciplinary study on the internet.

post, “Nice Booklet Pip, very informative and uncluttered – love it!” (*Mark* on January 14, 2013 at 3:08 pm). Shakthi Sivanathan was the only other CuriousWorks staff member to leave a comment on this blog post, “Lovin’ it Pip!” (*Shakthi* on November 9, 2012 at 6:55 pm). Three months after I released my booklet on the internet I emailed the staff of CuriousWorks asking them for further feedback on the booklet. I asked them to respond to five questions:

1. Was the booklet helpful for your practice?
2. What was your reaction to the theoretical aspects of the content?
3. How might the booklet be improved?
4. Would you have preferred to view this content in some other form? Say as a video or audio?
5. If there were more resources like this available, would you engage with them?

The only response I received to these questions was form Elias Nohra. He emailed me saying:

> Happy new year, Pip!!
>
> Today is my first day back, so I'm obviously swamped but have added responding to your survey thingy to my "to do" list.
>
> That is the worst kind of commitment, but it’s there :-)

A high proportion of those feeding back to me about the booklet, were academics and teachers. I thought this might have been due to my *ad hoc* dissemination process, which had relied quite heavily on my own social networks, spreading the artefact to their social networks. So I decided to make additions to my distribution technique for my second booklet.

My distribution process for booklet two was similar to booklet one. However, the first change came when I posted the booklet on FaceBook. I had come to view my FaceBook social network as very different to my Twitter and G+ networks, and had realised in retrospect that I had felt uncomfortable sending out my artefact in to this space. The reason for this was because my media sharing relationship with FaceBook had focussed mostly on articles and videos that critiqued the platform, and so I had felt subconsciously hypocritical using it to publicise what I had produced. In a display of pragmatism I shelved these feelings of hypocrisy and posted a link to the booklet. Several people from my own network showed interest in the booklet, and two people shared the link among their own FaceBook social networks.

I decided to change my Twitter strategy from simply relying on my own networks to spread my tweet. So I began applying several different hashtags to individual tweets so that those tuning into hashtags would be exposed to the message. I decided to do this after my first booklet had enjoyed such a diverse audience: from new media curators to social media academics to community theatre practitioners, I figured I should try and target different networked individuals via different identifiers. I used the following hashtags: #communityarts #jiscdiglit #cocreation #creativecommons #cc #digitalliteracies #socialenterprise #diglit #knowledgesharing. One day I was also following a hashtag stream, #vacant2vibrant, and I saw an opportunity to target a networked individual with my booklet. I compiled a tweet in response to her call for collaborators, added the #vacant2vibrant hashtag, sending my booklet off in another networked direction.

On April 3, 2013 – thirteen days after it was uploaded – my *Co-Creating Knowledge Online* booklet had been downloaded from my blog 342 times. I also noted that it took five days for this booklet to reach the same download count as the first booklet did in five months. It is difficult to pinpoint exactly why this happened, but I have hypothesised that it was a combination of an improved design and a more thoughtful, bold, and targeted dissemination process. The current download count is 580 (October 15, 2013).

At the time of writing, the only direct feedback about booklet 2 I have received from CuriousWorks is via Elias Nohra:

> HEY,
>
> Awesome! Feels really clear, and I want to marry it a little bit.
>
> Nice one!!

Iterative feedback from CuriousWorks proved integral to the design of the first booklet, and informed the design of the second booklet. On reflection, I set myself quite a challenging brief, as it proved quite difficult to achieve the right mix of practice and theory to communicate concepts. My dissemination strategy utilised a naturalistic method, whereby the booklets were released on their own spreadable path.

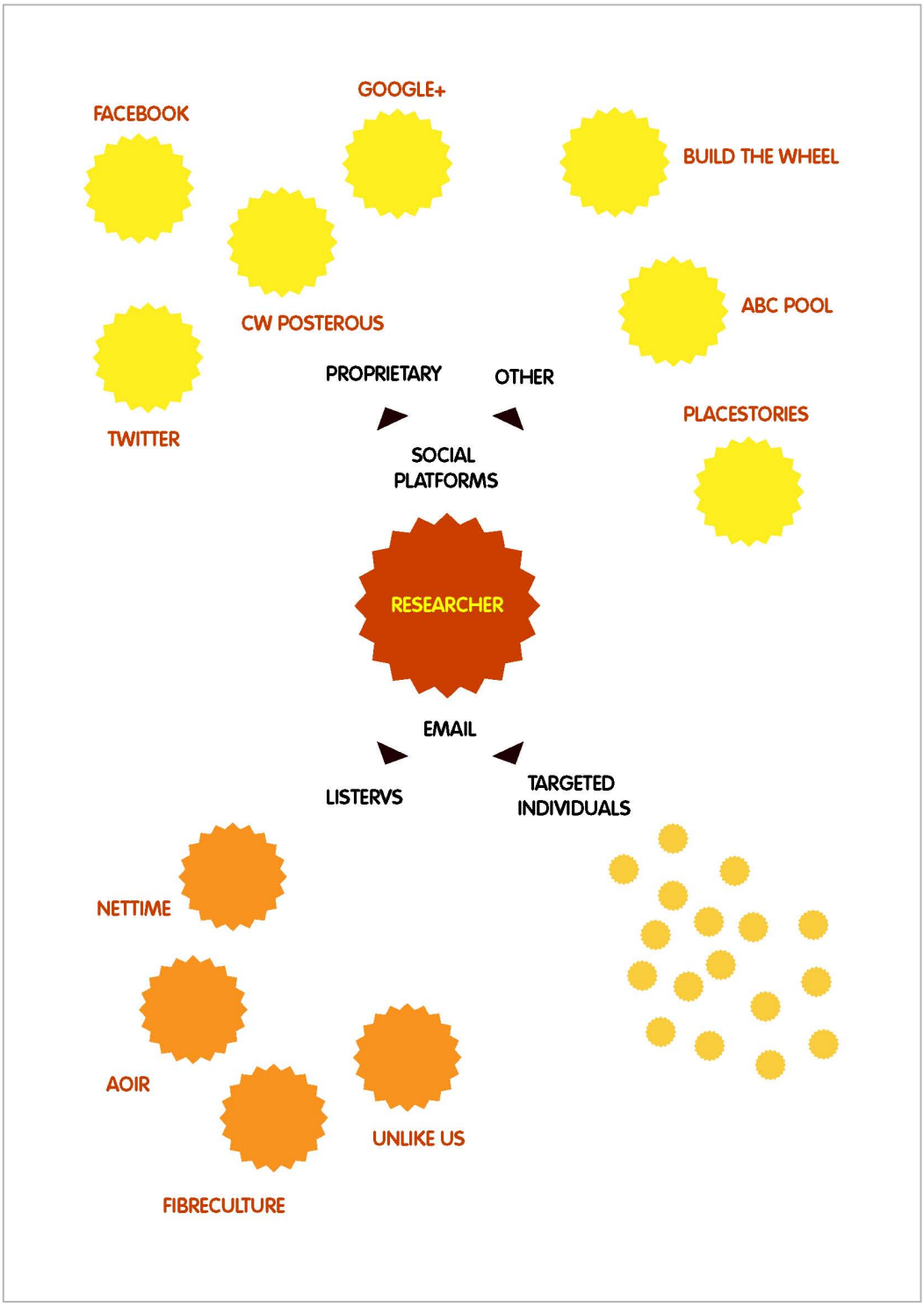


Figure 8: Infographic of booklet dissemination process

(Design: Pip Shea)

6.7 Evaluation and Transferability of Outputs

The following evaluation extracts meaningful connections and hypotheses from an analysis of the audience feedback gathered. It proposes that the booklets were successful experiments in that they gathered data about guiding the critical internet practices of community artists. This section will explain how the booklets are best thought of as a bridge to begin a journey, or a prelude to additional, supported, professional development, and learning, before offering suggestions as to what these further outputs might be. Evidence of the wide applicability of the booklets will also be presented, establishing their transferability across disciplines, and practices.

Positive responses from scholars suggest that the booklets have established some credibility in academic contexts; however, the distinct lack of responses from Australian community artists to the booklets suggests they did not gain any significant traction. My feeling here is that the need for internet praxis has not been recognised or emphasised as a pressing issue within the Australian community arts field, as opposed to concluding that my booklet was a complete failure. I was particularly struck by the lack of engagement by Australian institutions and organisations. More specifically, I had assumed that the staff from the office of community partnerships, and the head of research at the Australia Council, would be well placed to help me disseminate my booklets. Unfortunately I did not get responses from any of them. In retrospect, a better approach would have been to post printed booklets to these people.

The experiments revealed that the design and application of language was a major issue regarding how theoretical ideas are pitched to community artists in relation to on-the-ground practices. Some of my language tested well, while some of it created further confusion. Several people also fed back with suggestions for additional copy. These included requests for more information about copyright issues and specifics around making one's work visible, spreadable, and findable in social media networks. One person suggested there needed to be more information about how to fund projects, and another saw the need for a focus on censorship, building trust, and creating 'safe' online spaces. One respondent saw my booklet as an opportunity to discuss community software development, and described the Creative Commons license I chose for the booklets as "restrictive", even though the license enabled non-commercial reuse and remix. Another respondent suggested that links within the PDF to interesting and inspiring real-world projects would have been good, and that building a web-based forum would give people an opportunity to share their thoughts and experiences on an ongoing basis. The same respondent also suggested broaching the issue of project goals within online community building: managing process versus outcome.

The intention of the booklets was not to provide a complete roadmap for critical engagement with the internet, and the data eventually revealed that they are best thought of as a bridge to begin a journey, or a prelude to additional learning initiatives. Or perhaps more broadly, a signal to highlight the current transformations taking place in the sector.

It is difficult to predict how new vectors of learning might emerge via the booklets. One respondent suggested that the booklets be used as the framework for professional development for community arts workers and community managers. She saw this as a way to elevate the material from being "just another document in their inbox" to something "they would take the time to deeply reflect on". She then offered the following example to explain her idea:

> Everybody has to read the guide in advance and check out the links and real life case studies. Then could split into small groups assigned to each 'point' and where they actually analyse and discuss the websites you've linked to and what works/doesn't work in their approach. Each group could then present back to the wider group, or else rotate from one point to the other, depending on time constraints. That way, people really do develop critical/analytical skills around this area, which they will then be able to apply back to their own projects, in a more informed way.

Another suggestion to extend the reach of the information in the booklets is to translate them into an animation, a video, or an interactive story. Creating a short narrative that explains the examples, and the associated theory, could prove a less time consuming, more digestible mode of communication for time-poor community artists.

A wide variety of people showed interest in the booklets. Some have identified themselves as artists, curators, academics, community managers, and others simply identified themselves as "curious". They also came from different parts of the world, including one respondent who works for the police service in the

UK. She fed back that she was going to apply my theoretical models to recommendations she was preparing for a new role she was developing for the Hampshire police service: the community education officer. This wide-ranging audience illustrates evidence of the broad appeal of the booklets, establishing that their meta-level principles have transferability across disciplines and practices.

The booklets achieved relatively good distribution across the internet, suggesting the artefacts had elements of being spreadable media, the type of media that fosters, by its very nature, a more participatory society. Responses from those who engaged with the booklet, combined with the lack of responses from the community arts sector, also contributed to the analytical position that the booklets should be positioned as learning scaffolding: a prelude to further professional development activities.

Unintended audiences provided an unexpected data set for the research project that revealed the booklets as having transferability. It was always my intention that the booklets were relevant to community artists in international contexts, but this strategy proved a further success by attracting audiences from academia, community management, new media curation, library workers, and people who have an interest in the ways academics try to translate their scholarly work.

6.8 Conclusion

My booklet experiments – grounded in the practices of CuriousWorks and supported by current media theory – were deployed to investigate effective ways to engage practitioners with the politics and philosophies of internet software and hardware. They also attempted to translate ideas about emergent forms of cultural power for a field where the politics relevant to a projects and participants are case by case.

The findings from the two booklet experiments support the central hypothesis of the thesis: that the community arts sector would benefit from new articulations of sustainability that focus on appropriate technology and the internet. This evidence did not emerge due to the overwhelming success of the experiments; rather, it is linked with the failure of the booklets to resonate with the community arts sector. Supportive responses from people from a variety of different practices, disciplines, and contexts demonstrate there is a need for this type of resource, but the experiments revealed that the philosophy of software and networks is not on the radar of many community artists in Australia.

The experiments revealed a need for alternative approaches to be devised to help practitioners become more critical as designers and assemblers of appropriate internet technology. The concluding chapter will offer recommendations for a set of activities designed to develop practitioner awareness of the material qualities of the internet, and to build their capacity to identify the affordances of networked software and hardware. These six activities relate to an overarching pragmatic ethics of appropriate internet technology, an aspiration I propose to

assist the community arts objective of helping to nurture and sustain distributed cultural authorship to achieve cultural democracy. The activities are also offered in anticipation that the failure to engage in the philosophies of networks in the future may attract similar judgments as those directed at community arts projects that do not have sufficient community consultation or participant-led evaluation.

7. Conclusion

7.1 Appropriate Internet Technology Primer: A Pragmatist's Guide to Sustainable Community Arts Practice

7.1.1 Summary

Appropriate Internet Technology is a theoretical position I have devised to help community artists engage with and critically evaluate the internet's sociotechnical dynamics: both its human and technological agents. It can be thought of as a pragmatist ethic promoting experimental and iterative processes that prioritise context specificity. The idea of appropriate internet technology responds to emerging concerns about the internet and its associated material politics and how they affect cultural participation. I have established this as a matter of concern for community artists providing evidence that links the concept of appropriate technology with the aspiration of sustainability in community arts practice. The thesis now concludes with recommendations for how practitioners and researchers might navigate this new ethics of sustainability.

The following pragmatic primer is based on an assessment of the current local and global context of the community arts field, contemporary media theory, the internet practices of CuriousWorks, and the evaluation of my experimental design interventions. The thesis concludes with this guide due to the under-developed sense among the Australian community arts sector of how appropriate technology maps to internet software and hardware. At the very least the primer

provides sightlines for practitioners to help them reconfigure their practices in response to the internet becoming an increasingly dominant cultural paradigm. Although the theories and principles that underscore the primer might be well known to academics, I would argue that they may not be understood in this particular assemblage and situated in this context. The six activities offered in my *Appropriate Internet Technology Primer* are:

1. **Tinkering**: becoming familiar with the material aspects of the internet;
2. **Identifying Affordances**: surveying internet possibilities and politics;
3. **Speculative Design**: developing working and non-working prototypes;
4. **Assessing Capabilities**: evaluating the visible and hidden capabilities of networked individuals, and the requirements for ongoing mentoring;
5. **Agile Assembly**: resisting technological constraints through modification, adaptation, or detachment;
6. **Social Learning**: co-creating future notions of appropriate internet technology.

The primer responds to the current imperative of Internet Studies to engage with the materiality of networks in that they promote tinkering and play as methods for understanding the material affordances of network software and hardware. It also reflects current ICT4D scholarship that promotes the people-centred nature of appropriate technology that stresses the importance of identifying the needs and values of networked individuals and their multiple communities. The primer also draws on Critical Design and Critical Making as methods for critique and problem-solving and to ascertain whether the internet technologies being considered will make a contribution to sustaining the ability of community arts participants.

7.1.2 Tinkering

There is no handbook to describe how internet technologies might be used in different community arts projects. There are no established rules or even hints at best practice models, which is indicative of the constantly shifting material constitution of the internet. Guidelines and boundaries are being developed on the fly based on personal experience. Norms are being established just as quickly as they are being reconfigured or completely rejected by community arts practitioners and more broadly by participants of internet culture. For these reasons, the first activity in the primer is *tinkering*. For practitioners to familiarise themselves with the material qualities of the internet as a first step, it is my hope that they will engage with the material politics of the internet.

7.1.3 Identifying Affordances

Identifying Affordances is a call to action for practitioners to explore beyond the networked probable: to reveal the hidden affordances of internet technologies. These potentialities are recognised as offering both positive and negative outcomes, relative to a particular scenario or individual. Being in a position to understand internet possibilities may lead to a better understanding of which internet technologies are appropriate in different contexts. This is particularly pertinent for community artists as the very notion of context specificity is being reconfigured due to ubiquitous computing (Dourish Forthcoming). Important considerations may be revealed such as constructions of network inclusion and exclusion (Galloway 2006, 75). Particular attention should be paid to the opportunities technological disruption affords us. It may help re-think ideas, re-evaluate methods, and re-make artefacts. These processes of reconfiguration are

the challenging tasks of ongoing innovation (Stark 2009), and action is often made possible precisely because of unstable ground.

7.1.4 Speculative Design

Speculative Design is considered a Critical Design pursuit. The method aims to deliver imaginative presents, and potential future scenarios, challenging assumptions we have regarding the products we use (Dunne and Raby 2001). The idea of using working and non-working prototypes – sketches, models, or software – to envisage alternative ways of using internet technologies, based on the affordances of said technologies, can be thought of as a process of developing beta artefacts: designed things created to be critiqued, tested, or reassembled, before undergoing further critique.

Community arts practitioners are encouraged to use speculative design methodologies in conjunction with Critical Making processes. This involves working with scholars to isolate useful concepts in academic literature, before building technical prototypes in collaborative environments, both online and off. Critical Making substantiates the activity of tinkering to help practitioners preemptively, critically evaluate appropriate internet technology.

7.1.5 Assessing Capabilities

Being able to assess the capabilities of individuals who are taking part in the community art project is a crucial aspect of designing appropriate internet technology. When assessing individual capabilities practitioners should be mindful of the notion that human beings are capable of more than what modern

societal structures allow (Nussbaum 2011; Sen 1999). The internet is one such societal structure, so should be considered a limited and limiting system. Kleine's "determinist continuum" is helpful here, as practitioners can situate software applications and platforms on a metaphorical sliding scale to analyse how user choices are predetermined by technology (Kleine 2013, 37). This method addresses the notion that people must not be further disadvantaged by the framing institutions, social norms of use, and ideas embedded in technologies.

Practitioners should be mindful that people – even those considered disadvantaged or disenfranchised – are developing network literacies and competencies through informal avenues such as social networks and peer-to-peer learning. Community artists must assess these literacy levels to ascertain the potential capabilities of participants in relation to internet technologies to help isolate technological options. These activities aim to help practitioners nurture *network agency* among project participants. The notion of network agency moves beyond the dominant mode of addressing new media participants: from those who use networks, to those who understand their own boundaries within networks. This development of personal ethics creates opportunities for self-reflexivity, and can move individuals beyond merely having network literacy capacities, towards more considered, conscious action.

7.1.6 Agile Assembly

Agile Assembly describes a process of bricolage whereby internet technologies are put together for the purposes of a community art project. It is a techno-pragmatist approach that resists the constraints of technologies through

modification of technologies or detachment from technologies. Agile assembly involves choosing tools from the vast array of digital culture making technology; keeping abreast of changes to the structures and dynamics of chosen tools; and, disregarding tools when as they become inappropriate. Agile assembly can refer to the incorporation of different of software and hardware elements to circumvent limitations, or it can refer to the process of "user exploit" where users modify technologies as a form of social protest (van Dijck 2013, 33). These acts of appropriation or defiance are evidence of the tensions between technology creators and technology users, in the battle for the control of information.

7.1.7 Social Learning

Appropriate internet technologies must be designed iteratively from the grassroots with input from both community artists and project participants. Practitioners' knowledge of appropriate internet technologies will shift and be shaped by trial, error, and failure. For this reason, failure is framed as an important learning process; or to use Potts' (2009) description, failure produces "good waste", a necessary by-product of experimentation. If this "good waste" is shared and discussed within the wider community arts field – through social media, via fleshmeets (Rossiter 2006), or other modes of sharing – it may enable better systems for collectively tracking, mapping, and analysing internet technologies. I use the term *share* to put some distance between formal community arts evaluation paradigms and the idea of developing a culture of social learning. Where the mention of evaluation processes might induce memories of ticking boxes for those you have received financial support from,

social learning is proposed as an informal peer-to-peer process of knowledge trading and co-creation. The sector's historical association with notions of the commons (De Bruyne and Gielen 2011), and its alignment with the digital commons (da Rimini 2007), suggests there are realistic opportunities for practitioners to offer their successes and failures as examples of practice in social learning environments. The objective of developing new sharing paradigms is to help community artists develop a more critical view of internet technologies, so they are better placed to assess appropriateness in their projects. Social learning initiatives could also provide a catalyst for new collaborations between community artists, policy makers, and academia.

7.1.8 Conclusion

The pragmatic ethics of appropriate internet technology and its associated activities – the *Appropriate Internet Technology Primer* – are a departure point for practitioners when they are considering their projects under the lens of sustainability. Four of the activities offered – tinkering, identifying affordances, agile assembly, and social learning – were gleaned from contemporary media theory and reinforced by the practices of CuriousWorks; the remaining two – speculative design and assessing capabilities – were included to develop deeper, critical thinking and assessment of appropriate technologies.

7.2 Summary of the Contribution to Knowledge

This thesis has presented an argument, built a case, and designed a primer for a new pragmatic ethics of appropriate internet technology. It responds to my self-

imposed call to action to reassess established notions of sustainability in community arts. This new knowledge incorporates philosophies and practical approaches from Software Studies, ICT for Development Studies (ICT4D), and Design Studies, but is offered as a contribution to contemporary Community Arts philosophy. The experimental design interventions also offer a methodological contribution to the field of Internet Studies.

Chapter Two established that the community arts field's trajectory has consistently been reconstructed and redefined due to sociotechnical shifts. With this historical precedent in place, the argument was put forward that participatory internet culture is providing the transformational momentum currently driving changes in the sector, particularly in relation to emergent modes of cultural production and distribution. After reviewing the various ethical philosophies associated with community arts – and revealing their roots in development studies – the chapter then argued for a reconfiguration of the community arts legacy ethic, sustainability, to give it more relevance and resonance in the context of networked culture. Appropriate technology – a term that has previously been associated with notions of sustainable practice – was highlighted as a way to articulate how technology affects the ongoing production of culture by individuals involved in community arts projects. New areas of practice and informal learning contexts are then identified to illustrate how the methods used to achieve the aspiration of cultural democracy are changing globally. This empirical evidence established a basis for further theorising and data gathering in relation to the Australian field, in order to develop new approaches to framing and implementing appropriate technology.

Chapter Three built the theoretical case for an alternative ethics of appropriate technology focused on the internet. It established that praxis is central to the assessment and creation of appropriate technology, and argued for community artists to engage with the material qualities of internet technologies as part of this reflexive process. It situated the design of appropriate technologies as a critical act, before presenting an argument for attaching the identity of critical designer and maker to community artists so they may become more conscious of the potential implications of technology. The chapter also makes a case for the community arts sector's ongoing association with Development Studies theories and practice.

Chapter Four presented an investigation of the Australian community arts organisation CuriousWorks. My observations of the company's praxis led me to conclude that they are pragmatists. Their ethical framework and techno-pragmatist approaches provided evidence that the company prioritises the application of appropriate technology in their projects. This section also hypothesised that their pragmatist approaches are the foundation of their innovative practices: that CuriousWorks' techno-pragmatist ethic enables them to traverse and shape technology to reveal its affordances.

Chapter Five focused on the specific internet practices of CuriousWorks. It presented evidence of the challenges its practitioners have faced, and the opportunities they have converted due to their ongoing engagement with the materiality of the internet. It established that CuriousWorks practitioners were

struggling with a lack of understanding of how the values associated with physical community differ from those associated with online community. This provided further momentum for the study, as it revealed that there were significant differences between traditional constructions of community and the collections of networked individuals CuriousWorks were interfacing with online.

Chapter Six offers a contribution to knowledge in the form of a methodology for a "spreadable" (Jenkins, Ford and Green 2013), electronic, communication design intervention. These experimental interventions were designed to relay research findings to CuriousWorks and to the wider community arts field. They were released online on various digital communications platforms with the aim that they would be re-distributed by interested networked individuals. This led to knowledge spillovers in to other academic fields and fields of creative practice, indicating that the booklets appealed to unintended audiences. The lack of feedback received from the community arts sector indicated that the booklets did not succeed in communicating new modes of praxis. This provided the impetus for the *Appropriate Internet Technology Primer,* offered in the concluding chapter.

7.3 Policy Recommendations

7.3.1 Introduction

As described in Hawkins' foundational text *Constructing Community Arts: From Nimbin to Mardi Gras* (1992), the policy concepts traditionally contested by community arts have focused on creative excellence, a unified national culture, and the role of the artist. As the sector has historically been a persistent

challenger to the status of culture in cultural policy, it is appropriate that this thesis turns its attention to current policy initiatives to identify gaps based on the findings of the study.

While acknowledging the radical roots of the community arts movement this thesis does not support a reversion to a time when practitioners operated outside of government funding in an attempt to free themselves from political agendas. Rather, it offers the proposal that the internet and mobile communications networks offer new opportunities for critical community arts practice within the frame of government funding. This position is both critical and pragmatic, suggesting that there are unique opportunities afforded to the community arts field and the government bodies that fund community arts activities, but that coming to understand and implement these affordances requires an adjustment of policy settings.

This policy review considers former Arts Queensland head Leigh Tabrett's suggestion that the arts in Australia is being negatively affected by "under-developed policy underpinnings". In her paper, *It's Culture, Stupid!* (2013) Tabrett exposes the "authority" of decision-making in the wider Australian arts sector as being situated in "tradition" which she sees as the root of confusion surrounding government arts funding at both state and federal levels. The release of the National Cultural Policy in 2013 is one such indicator – the first federal cultural policy in nineteen years – as is the fact that Queensland is currently the only state jurisdiction to have a cultural policy (*Creative Queensland* 2002). This thesis echoes Tabrett's call for better policy development and

implementation processes in community arts, to contend with socio-technological shifts, and to maintain relevance as a sector.

Having reviewed the policies that govern the Australian community arts sector – highlighting historical tensions between producing 'artistic excellence' and delivering 'ethical excellence' and how they are further complicated by networked culture – the thesis highlights policy gaps from a sympathetic position, recognising the challenges associated with creating and implementing alternative policy frameworks. The main idea driving the rationale for establishing these gaps is the idea that rhetoric surrounding new/digital/network literacies and competencies should move towards discussions of participation agency: becoming conscious of emergent modes of participation and connection, such as new sharing and co-creation paradigms.

7.3.2 Policy Gaps

As discussed by Flew in his paper, *The Convergent Media Policy Moment* (2012), Australian media and cultural policy has received an unusual amount of attention between 2011 and 2012 due to activities surrounding The Convergence Review, The Review of the National Classification Scheme, The National Cultural Policy Review, The Independent Media Inquiry, and The National Arts Curriculum Review. Flew theorises that this current policy moment – what he terms the "convergent media policy moment" – is "akin to the cultural policy moment theorised by Australian cultural researchers in the early 1990s" (2012), a period within cultural studies that pulled focus on the role of government in shaping notions of national identity and culture (Cunningham 1992). Flew

creates a parallel to this current moment through identifying a resurgence of "media and cultural policy activism" that seeks better guidelines for the governance of media content and delivery platforms; rules that recognise the shift from "vertically-integrated industry 'silos'" to "a series of horizontal layers of (1) infrastructure; (2) access devices; (3) applications/content services; and (4) content itself" (2012).

Having established this convergent media policy moment this thesis will focus on the *National Cultural Policy* (NCP) discussion paper and the final policy that emerged from this participatory process, *Creative Australia* (*Creative Australia* 2013). The NCP was launched in 2011 in an attempt to garner ideas and establish priorities for the federal government's cultural policy. The discussion paper specified the importance of education around emerging technologies (*National Cultural Policy: discussion paper* 2011, 15), but was accompanied by very little detail regarding ways to achieve this. It also included several goals that promoted cultural diversity and democratic participation while contradictorily focusing on the challenges surrounding the artist/audience binary. This tired notion that the growing gap between the well-funded arts and people's cultural interests as an audience development problem (Westbury 2011) – and not a cultural shift – was unfortunately carried over in to the final national cultural policy report, *Creative Australia* (*Creative Australia* 2013). The NCP discussion paper retained an equally tired medium-based approach to artistic practice, specifying 'core arts' as music, performing arts, literature and visual arts. This reinforcement of limited definitions of culture making was disappointing, as it excluded a vast array of activities that contribute to culture.

Creative Australia (*Creative Australia* 2013), the first national cultural policy to be released since Creative Nation in 1994, did not offer much more in the way of inspired, critical thinking around emergent technologies. In one of the lonely paragraphs identifying digital culture as an emergent force, the policy states:

> In this new environment, it is becoming increasingly possible to seamlessly move from being an audience member, to being a co-creator, critic, curator or direct funder. There are new connections between consumers and makers of creative and cultural content. This presents unprecedented opportunities for citizens to participate actively and creatively and provides producers and presenters with new methods of delivery, and new communities with whom to engage. (*Creative Australia* 2013)

The use of the word "seamlessly" is particularly troubling, in light of recent scholarly studies revealing that participation in digital culture can pose huge challenges for many users of the internet (van Dijck 2009; Dimaggio et al. 2010). The policy also frames "cultural infrastructure" as "libraries, local heritage sites, museums, cultural centres, historic buildings, theatres, music venues and art centres" (*Creative Australia* 2013). It is unfortunate that communications infrastructure and online platforms are not framed as cultural infrastructure.

The section in Creative Australia that deals with "community-based arts and cultural programs" is equally uninspiring. The document outlines the government's policy aims in the following way:

• Increased participation in the arts and cultural activities by a broad demographic to recognise its place at the core of a just, inclusive, vibrant, prosperous and resilient society.

• Widespread application of art-led approaches to complex social and economic challenges across all levels of government.

• Recognition that culturally vibrant places attract people and businesses, are more competitive and are inclusive and better places to live.

These policy aims are situated in rhetoric linking community arts practice to "regional development" and creating "social dividends". It also situates "arts-led community-based" projects as activities that respond to and come to the aid of "social and community problems" (*Creative Australia* 2013, 104).

7.3.3 Policy Recommendations

This section puts forward an argument for community arts policy to reflect more nuanced definitions of 'excellence', 'innovation', 'sustainability', and 'community'. It argues for professional development initiatives to be rolled out that encourage knowledge exchange and new organisational practices. It situates community arts as part of the emergent connected learning ecosystem, establishing a need for the tweaking of policy settings to fully take advantage of this new distributed culture of learning. The section concludes by flagging the need for policy to evolve with changing telecommunications infrastructure (Apperley et al. 2011).

This thesis has revealed that networked participatory culture is placing pressure on traditional configurations and conceptions of the terms excellence, innovation, sustainability, and community. The current Australia Council Community Partnerships guidelines place a heavy emphasis on excellence in particular: in both an artistic and community development context. Being the government body with the most control over the sector, the Australia Council has a responsibility to revisit this focus on excellence. Or at the very least, be specific about what this constitutes in contemporary culture. The sector would also benefit from developing new understandings of what constitutes innovation and innovative practice in the current community arts context; as well as coming to grips with the interplay between online and offline interactions to develop policies that maximise the affordances of the internet and digital technologies.

The thesis strongly recommends the development of new policies and guidelines around professional development initiatives that encourage agility, prototyping, techno-pragmatism, sharing cultures, new organisational practices, and the critical assembly of technology. It suggests models that encourage play, insight derived from failure, and other methods that nurture praxis and contribute to a new lexicon for the sector. This idea has emerged from the failure of my booklet prototype to gain traction among community artists.

The thesis has also identified an opportunity for the community arts sector, to establish itself as part of the global connected learning ecosystem. This proposal was put forward as the "ecosystem of connected media needs watchful caretakers and diverse gardeners in order for it to be sustained" (van Dijck 2013, 176). In

order for these opportunities to be realised, community arts practices need to maximise the affordances of this new culture of learning: the interplay between digital information networks and structured learning environments (Douglas and Seely Brown 2011). Emergent affinity fields in the connected learning context may help the sector to maintain relevance in an increasingly participatory global culture.

The final recommendation is that community arts policy must evolve as supporting communications infrastructure changes. The thesis has identified that supporting infrastructure, namely bandwidth, will be one of the biggest factors relating to the design of appropriate technology in the future; this will shift focus from current issues that arise surrounding slow connections and expectations surrounding the performance of technology, to issues relating to the speed of bandwidth, for example, the ethics associated with real-time video interactions.

7.4 Further Research

This thesis set out to reveal the sociotechnical entanglements of cultural production and digital networks in the context of community arts in Australia; through the particular example of CuriousWorks. It has provided a response to Neff's (2014) recent provocation that "we need expanded theories of communicative agency and power" to "expand our visions of emancipatory horizons" – but it does so within limits. One of the major limiting factors of my study was geographic scope. This points to a need for future research to be carried out in other parts of Australia. Comparative studies that investigate international socially engaged arts practices based on my pragmatic ethics of

appropriate internet technology would reveal differences, say between US philanthropic models and the Australian context. There is also room to develop more experimental interventions, workshop models, and communication artefacts, based on the guidelines I have established, and the roadblocks I faced.

It would have been possible to arrive at different conclusions about appropriate internet technology, particularly if I had focused more on the making of hardware. Increasingly, "groups possessing various levels of technical expertise are able to *simultaneously make and share both things ("material") and knowledge ("immaterial")* through newly conceived digitally mediated practices" (Ratto 2012). It is yet to be seen how this emergent paradigm might impact the practices of community arts, but it has the potential – just like participatory media – to reconfigure the dynamics of production and consumption. I might also have arrived at alternative conclusions if I had broadened my focus of sustainability to include such things as environmental impact.

The ethics of appropriate technology outlined in Chapter Three requires practitioners to undergo assessment processes to ascertain the needs of networked individuals. This points to a need for practitioners to devise new strategies to understand how experiences of online participation are *valued* by those they are working with. This is not just a matter of assessing what hardware and software they are using, it will require a deeper understanding of what types of experiences and interactions these individuals value in different networked contexts. How does online factor in to the lives these individuals have come to

value? How do these values differ between individuals? And how do they differ within geographically located communities?

New methods to test Kleine's (2013) notion of where technologies appear on the "determinism continuum" would also be very helpful for the sector, so that practitioners might better understand how the choices offered to project participants are limited or opened up. New methods are also needed to welcome other socially engaged creative practitioners – who are not closely engaged in the sector – in to community arts policy networks, to encourage interdisciplinary dialogue, exchange, and co-creative practices.

Finally, developing more nuanced understandings of networked sharing paradigms, and networked identity, will prove crucial for the community arts field in the future. Whether the context is the internal communication infrastructure of a small organisation, or the co-ordination of information sharing regarding appropriate internet practices, understanding logics and developing norms for sharing will be key. An opportunity exists for contemporary community arts to become a uniquely collaborative and co-creative sector, but this as yet has not been properly recognised and prioritised. Any residual paralysis left over from the shock of the new must finally be shaken off so practitioners and policy makers can focus on resituating the sector.

References

2005. In *New Oxford American Dictionary*, edited by E. McKean: Oxford University Press.

2006-2007 in 2 mins! 2007. http://curiousworks.com.au/stories/in-2-mins-2006-2007 (accessed December 12).

Abdelaal, A. M. 2009. The Role of Social Capital in the Creation of Community WiFi Networks. Paper read at 42nd Hawaii International Conference on System Sciences, at Hawaii.

Adams, D. and A. Goldbard. 1990. *Crossroads: Reflections on the Politics of Culture*. Talmage: DNA Press.

All Around You: Groups. 2011. http://www.allaroundyou.net/groups (accessed July 29).

Altrichter, H., S. Kemmis, R. McTaggart and O. Zuber-Skerrit. 2002. The Concept of Action Research. *The Learning Organisation* 9 (3).

Anderson, M. 2010. Playing to Learn. http://prezi.com/rj_b-gw3u8xl/playing-to-learn/ (accessed October 13).

Anderson, R. B. 1983. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso.

Ang, I., L. Ang, G. Hawkins and L. Dabboussy. 2008. *The SBS Story: The Challenge of Cultural Diversity*. Sydney: University of New South Wales Press Ltd.

Apperley, T., B. Nansen, M. Arnold and R. Wilken. 2011. Broadband in the Burbs: NBN Infrastructure, Spectrum Politics and the Digital Home. *M/C Journal* XIV (4).

Apperley, T. H. and D. Jayemane. 2012. Game Studies' Material Turn. *Westminster Papers* 9 (1).

Arts Content for the Digital Era. 2009. *Strategy Paper*. Sydney: Australia Council for the Arts.

Ascott, R. 2003. *Telematic Embrace: Visonary Theories of Art, Technology and Consciousness*. Ed. E. A. Shanken. Berkeley: University of California Press.

Australia Council for the Arts Annual Report. 1987-88. Sydney: Australia Council for the Arts.

Australia Council for the Arts Annual Report. 1995-96. Sydney: Australia Council for the Arts.

Australia Council for the Arts Annual Report. 2005-06. Sydney: Australia Council for the Arts.

Bacon, J. 2009. *The Art of Community*. Sebastopol, California: O'Reilly Media Inc.

Badham, M. 2010. The Case for 'Socially Engaged Arts': Navigating Art History, Cultural Development and Arts Funding Narratives. *Local-Global Journal* 7.

Balsamo, A. 2011. *Designing Culture: The Technological Imagination at Work*. Durham: Duke University Press.

Banks, J. 2012. *Making Co--creative Culture: Videogames and Social Network Markets*. Cambridge: MIT Press.

Bartlett, J. and C. Miller. 2011. *Truth, Lies and the Internet: A Report into Young People's Digital Fluency*. London.

Barzilai-Nahon, K. 2008. Toward a Theory of Network Gatekeeping: A Framework for Exploring Information Control. *Journal of the American Society for Information Science and Technology* 59 (9):1493-1512.

Baym, N. K. 1993. Interpreting Soap Operas and Creating Community: Inside a Computer-Mediated Fan Culture. *Journal of Folklore Research*, Vol. 30(2/3), 143-176.

Baym, N. K. 1998. The Emergence of On-line Community. In S. Jones (Ed.) *Cybersociety: Communication and Community* (pp. 35-68), CA: Sage.

Baym, N. K. 1999. *Tune In, Log On: Soaps, Fandom, and Online Community*. Thousand Oaks: Sage Publications Inc.

Baym, N. K. 2007. The New Shape of Online Community: The Example of Swedish Independent Music Fandom. *First Monday*, volume 12, number 8.

Bazzichelli, T. 2008. *Networking: The Net as Artwork*: Digital Aesthetics Research Center, Aarhus University.

Becker, C. 1994. *The Subversive Imagination: Artists, Society, & Social Responsibility*. Ed. C. Becker. London: Routledge.

Benkler, Y. 2004. Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production. *The Yale Law Journal* 114 (2):273-358.

Benkler, Y. 2006. *The Wealth of Networks*. New Haven and London: Yale University Press.

Benkler, Y. and H. Nissenbaum. 2006. Commons-Based Peer Production and Virtue. *The Journal of Political Philosophy* 14 (4):394–419.

Bennett, T. and D. Carter. 2001. *Culture in Australia: Policies, Publics and Programs*. Cambridge: Cambridge University Press.

Berry, D. M. 2011a. The Computational Turn: Thinking About the Digital Humanities. *Culture Machine* 12:1-22.

Berry, D. M. 2011b. *The Philosophy of Software: Code and Mediation in the Digital Age*. Hampshire: Palgrave Macmillan.

Bijker, W. E. 1997. *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*. Cambridge: MIT Press.

Bird, S.E., N. Couldry, A. Hepp, S. Livingston, E. Losh, J. Mittell, G. Neff, D. Slater, S. Watkins. 2014. Participations: Dialogues on the Participatory Promise of Contemporary Culture and Politics. *International Journal of Communication* 8 (2014), Forum 1216–1242

Blumer, H. 1969. *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs: Prentice Hall.

Bower, R. 1976. *Report to the Entrepreneurial Committee*. Sydney: Australia Council for the Arts.

Brown, N. 2006. Shifting Tenses—From "Regimes of Truth" to "Regimes of Hope". In *Working Paper No. 30*: University of York.

Bruns, A. 2008. *Blogs, Wikipedia, Second life, and Beyond: From Production to Produsage*. New York: Peter Lang Publishing Inc.

Bucher, T. 2011. Network as Material: An Interview with Julian Oliver. http://www.furtherfield.org/features/interviews/network-material-interview-julian-oliver (accessed June 21).

Burgess, J. 2012. The iPhone Moment, the Apple Brand and the Creative Consumer: From 'Hackability and Usability' to Cultural Generativity. In *Studying Mobile Media: Cultural Technologies, Mobile Communication, and the iPhone*, Ed. L. Hjorth, I. Richardson and J. Burgess. New York London: Routledge.

Burgess, J. E. 2007. Vernacular Creativity and New Media, Creative Industries Faculty, QUT, Brisbane.

Burnham, J. 1969. Real Time Systems. *Artforum International* (Sept):49-55.

Burnham, J. 1970. Software, Information Technology: Its New Meaning for Art New York: Jewish Museum.

Burrowes, T. 2011. Andrew Denton on the Kit Denton Disfellowship. http://mumbrella.com.au/andrew-denton-launches-the-kit-denton-disfellowship-48495 (accessed September 30).

Butler, D. 2007. The Race to Wire up the Poor. *Nature* 447:6-7.

Caffentzis, G. 2010. The Future of the Commons: Neoliberalism's 'Plan B' or The Original Disaccumulation of Capital. *New Formations* 69:23-41.

Carr, N. 2010. *The Shallows: What the Internet is Doing to Our Brains.* New York: W. W. Norton.

Castells, M. 2000. *The Rise of The Network Society*. Second Edition ed. Malden, MA: Blackwell Publishing.

Castells, M. 2009. *Communication Power*. New York: Oxford University Press.

Castells, M., R. Flecha, P. Freire, H. A. Giroux, D. Macedo and P. Willis. 1999. *Critical education in the new information age*. Ed. D. Macedo. Maryland: Rowman & Littlefield Publishers.

CCD Theory. 2006. http://www.ccd.net/about/theory.html (accessed January 7).

Charmaz, K. 2006. *Constructing Grounded Theory*. London: Sage Publications.

Choi, J. H.-j. 2010. Playpolis: Transyouth and Urban Networking in Seoul, Creative Industries Faculty, Queensland University of Technology, Brisbane.

Chun, W. 2007. Imagined Networks. Paper read at New Network Theory, June 28-30, at Amsterdam.

Claydon, L. F. 1981. Australia's Settlers: The Galbally Report. *International Migration Review* 15 (1):109-112.

Coleman, E. G. 2013. *Coding Freedom: The Ethics and Aesthetic of Hacking.* Princeton: Princeton University Press.

Coleman, G., G. Lovink, N. Rossiter and S. Zehle. 2009. From Weak Ties to Organised Networks: Ideas, Reports, Critiques. In *Hogeshool van Amsterdam*, edited by I. o. N. Cultures. Amsterdam.

Community Partnerships. 2012. http://www.australiacouncil.gov.au/artforms/community-partnerships (accessed February 7).

Community Partnerships Opinion Piece. 2011. http://www.australiacouncil.gov.au/artforms/community-partnerships/opinion_piece (accessed December 12).

Community Partnerships Sector Plan 2010-2012. 2011. Sydney: Australia Council for the Arts.

Connected Learning Infographic. http://connectedlearning.tv/infographic (accessed August 16).

Cooke, B. and U. Kothari. 2001. *Participation: The New Tyranny?* London: Zed Books Ltd.

Crawford, K. 2014. *Squeaky Dolphin to Normcore: Anxiety and Big Data Culture.* Presentation at MIT Comparative Media Studies Colloquium. Cambridge, MA. March 13.

Creative Australia. 2013. *National Cultural Policy*. Canberra: The Australian Governments.

Creative Queensland. 2002. *The Queensland Government Cultural Policy* Arts Queensland and the Queensland Government

The Critical Engineering Manifesto. 2011. (accessed January 15).

Cunningham, S. 1992. *Framing Culture: Criticism and Policy in Australia*. Sydney: Allen and Unwin.

CuriousWorks Annual Report. 2008. http://curiousworks.com.au/stories/annual-report-2008/

CuriousWorks Annual Report. 2009. http://curiousworks.com.au/stories/annual-report-2009/

CuriousWorks Annual Report. 2010. http://curiousworks.com.au/stories/curiousworks-2010-annual-report/

CuriousWorks Annual Report. 2011. http://curiousworks.com.au/journeys/curiousworks-2011-annual-report/

CuriousWorks Company Mission and History. 2010. http://www.curiousworks.com.au/about/ (accessed November 2).

CuriousWorks Public Info. 2012. Sydney: CuriousWorks.

CuriousWorks Toolkit. 2011. http://toolkit.curiousworks.com.au/ (accessed December 12).

da Rimini, F. 2007. Archipelagos of Open Code and Free Culture. In *A Handbook for Coding Cultures*, ed. F. d. Rimini. Sydney: d/Lux/MediaArts and Campbelltown Arts Centre.

Dal Fiore, F. 2007. Communities Versus Networks: The Implications on Innovation and Social Change. *American Behavioural Scientist* 50 (7):857-866.

Davidson, C. N. 2011. Five Ways The Open Web Can Transform Higher Education. http://www.cathydavidson.com/2011/12/five-ways-the-open-web-can-transform-higher-education/ (accessed February 4).

Davis, M. 1999. *Gangland: Cultural Elites and the New Generationalism*. Second ed. Sydney: Allen and Unwin.

De Bruyne, P. and P. Gielen. 2011. Introduction: Between the Individual and the Common. In *Community Art: The Politics of Trespassing*, ed. P. De Bruyne and P. Gielen. Amsterdam: Antennae.

Denzin, N. K. and Y. S. Lincoln. 1998. *Strategies of Qualitative Inquiry*. Thousand Oaks, California: Sage Publications Inc.

Deuze, M. 2006. Participation, Remediation, Bricolage: Considering Principal Components of a Digital Culture. *The Information Society: An International Journal* 22 (2):63-75.

Dewey, J. 1915. *The Logic of Judgements of Practice*, *The Collected Works of John Dewey, Middle Works, Volume 8*: Southern Illinois University Press.

Dimaggio, P., E. Hargittai, C. Celeste and S. Shafer. 2010. *From Unequal Access to Differentiated Use: A Literature Review and Agenda for Research on Digital Inequality*: Prepared for the Russel Sage Foundation.

Douglas, T. and J. Seely Brown. 2011. *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change*: CreateSpace.

Dourish, P. Forthcoming. What We Talk About When We Talk About Context. *Personal and Ubiquitous Computing*.

Dreher, T. 2012. A Partial Promise of Voice: Digital Storytelling and the Limit of Listening. *Media International Australia* 142:157-166.

Drengson, A. R. 1982a. Four Philosophies of Technology. *Philosophy Today* 26 (2):103-117.

Drengson, A. R. 1982b. Toward a Philosophy of Appropriate Technology. *Humboldt Journal of Social Relations* 9 (2):161-177.

Drengson, A. R. 1986. Applied Philosophy of Technology: Reflections on Forms of Life and the Practice of Technology. *International Journal of Applied Philosophy* 3 (1):1-13.

Drengson, A. R. 1995. *The Practice of Technology: Exploring Technology, Ecophilosophy, and Spiritual Disciplines for Vital Links*. Albany: State University of New York Press.

Dunn, A. 2006. *Creative Communities: Community Partnerships Scoping Study*. Sydney: The Australia Council for the Arts.

Dunne, A. 2005. *Hertzian Tales*. Cambridge: MIT Press.

Dunne, A. and F. Raby. 2001. *Design Noir: The Secret Life of Electronic Objects*. Basel: Birkhauser.

Dutton, W. H. 2013. *The Oxford Handbook of Internet Studies*. Oxford: Oxford University Press.

Eltham, B. 2012. Community Cultural Development Is Not Finished Yet: Community Arts in Transition. http://www.crikey.com.au/2012/11/09/arts-is-local-storytelling-digital-in-co-creative-communities/ (accessed 28.11.12).

Flecha, R. 1999. New Educational Inequalities. In *Critical Education in the New Information Age*, ed. D. Macedo. Maryland: Rowman & Littlefield Publishers.

Flew, T. 2012. The Convergent Media Policy Moment. *Institute for Culture and Society Occasional Paper Series* 3 (3).

Freire, P. 1972. *Pedagogy of the Oppressed*. Harmondsworth, Middlesex: Penguin Books Ltd.

Fry, T. 2009. *Design Futuring: Sustainability, Ethics, and New Practice*. Oxford: Berg.

Fry, T. 2011. *Design As Politics*. Oxford: Berg.

Fuller, M. 2003. *Beyond The Blip*. Brooklyn: Autonomedia.

Fuller, M. 2008. Elegance. In *Software Studies \ A Lexicon*, ed. M. Fuller. Cambridge: MIT Press.

Fuller, M. and A. Goffey. 2012. *Evil Media*. Cambridge: MIT Press.

Galloway, A. 2008. A Brief History of the Future of Urban Computing and Locative Media, Department of Sociology and Anthropology, Carleton University, Ottawa.

Galloway, A. R. 2006. Protocol. *Theory Culture Society* 23 (2-3):317-320.

Galloway, A. R. and E. Thacker. 2007. *The Exploit: a theory of networks*. Minneapolis: University of Minnesota Press.

Garnham, N. 1999. Amartya Sen's "Capabilities" Approach to the Evaluation of Welfare: It's Application to Communications. In *Communication, Citizenship, and Social Policy: Rethinking the Limits of the Welfare State*, ed. A. Calabrese and J. C. Burgelman. Lanham: Rowman and Littlefield.

Garrett, M. 2012. Revisiting the Curious World of Art & Hacktivism. http://www.furtherfield.org/features/articles/revisiting-curious-world-art-hacktivism (accessed June 30).

Gasser, U. and J. Palfrey. 2007. *When and How ICT Interoperability Drives Innovation*, *Breaking Down Digital Barriers*: The Berkman Centre for Internet and Society at Harvard Law School and The University of St. Gallen.

Gauntlett, D. 2011. *Making Is Connecting: The Social Meaning of Creativity, From DIY and Knitting to YouTube and Web 2.0*. Cambridge: Polity Press.

Gaver, W. W. 1991. Technology Affordances. In *SIGCHI conference*. New Orleans.

Geek In Residence 2013. 2012. http://www.australiacouncil.gov.au/grants/grant-decisions/reports/arts-organisations/geek-in-residence-2013 (accessed March 6).

Gibson, J. J. 1977. The Theory of Affordances. In *Perceiving, Acting, and Knowing*, ed. R. E. Shaw and J. Bransford. Hillsdale: Lawrence Erlbaum Associates.

Gillespie, T. 2010. The Politics of 'Platforms'. *New Media & Society* 12 (3):347–364.

Gillespie, T., P. J. Boczkowski and K.A. Foot. 2014. Media Technologies: Essays on Communication, Materiality, and Society. Cambridge: MIT Press.

Glaser, B. 1978. *Theoretical Sensitivity*. Mill Valley: The Sociology Press.

Goggin, G. 2007. An Australian Wireless Commons? *Media International Australia* (125):118-130.

Goodall, H. L. 2008. *Writing Qualitative Inquiry: Self, Stories, and Academic Life*. Walnut Creek: Left Coast Press.

Gordon, E. 2008. Towards a Theory of Network Locality. *First Monday* 13 (10).

Granovetter, M. 1973. The Strength of Weak Ties. *American Journal of Sociology* 78 (6):1360-1380.

Granovetter, M. 1983. The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory* 1:201-233.

Grewal, D. S. 2008. *Network Power: The Social Dynamics of Globalization*. New Haven: Yale University Press.

Guiding Principles for Community Partnerships. 2011. Sydney: Australia Council for the Arts.

Hadley, B. J. and S. Gattenhof. 2011. Measurable Progress? Teaching Artsworkers to Assess and Articulate the Impact of Their Work. *M/C Journal* 14 (6).

Hargittai, E. 2010. Digital Na(t)ives? Variation in Internet Skills and Uses among Members of the "Net Generation". *Sociological Inquiry* 80 (1):92-113.

Hartley, J. 2002. *Communication, Cultural and Media Studies: The Key Concepts*. Third ed. London: Routledge.

Hartley, J. 2009. *The Uses Of Digital Literacy*. Brisbane: University of Queensland Press.

Hartley, J., K. McWilliam, J. Burgess and J. Banks. 2008. The Uses Of Multimedia: Three Digital Literacy Case Studies. *Media International Australia* (No. 128):59-72.

Hartley, J., K. McWilliam. 2009. Computational Power Meets Human Contact. In *Story Circle: Digital Storytelling Around the World*, Ed. J. Hartley and K. McWilliams. Chichester: Blackwell Publishing.

Hawkins, G. 1992. *From Nimbin to Mardi Gras: Constructing Community Arts*. Sydney: Allen & Unwin Pty Ltd.

Hayles, N. K. 2006. The Traumas of Code. *Critical Enquiry* 33 (Autumn):136-157.

Hearn, G. N. and M. Foth. 2007. Communicative Ecologies: Editorial Preface. *Electronic Journal of Communication* 17:1-2.

Hecks, R. 1985. Rethinking Community Arts. *Meanjin* 4:553-555.

Helguera, P. 2011. *Education for Socially Engaged Art*. New York: Jorge Pinto Books.

Hexayurt Project. 2011. http://www.appropedia.org/Hexayurt (accessed August 27).

Horne, D. 1988. *Arts Funding and Public Culture*. Queensland: Institute of Cultural Policy Studies.

Howe, M. 1979. Appropriate Technology: A Critical Evaluation of the Concept and the Movement. *Development and Change* 10:115-24.

Hull, H. 2012. Outsider Art. http://www.hannahhull.co.uk/page11.htm (accessed June 4).

Hutchinson, J. 2013. The Role of the Cultural Intermediary Within Professional Participatory Communication: Lessons from ABC Pool. In *International Association of Media and Communication Research*. Dublin.

Hyde, A., kanarinka, M. Linksvayer, M. Mandiberg, M. Peirano, S. Tarka, A. Taylor, A. Toner and M. Zer-Aviv. 2010. *Collaborative Futures*: FLOSS Manual Licensed under CC BY-SA 3.0.

Inter-arts website. 2010. http://www.australiacouncil.gov.au/the_arts/interdisciplinary_arts (accessed 20 December).

International Colloquium: The Participatory Condition. 2013. http://www.media.mcgill.ca/en/content/international-colloquium-participatory-condition (accessed

Ito, M., S. Baumer, M. Bittanti, d. boyd, R. Cody, B. Herr-Stephenson, H. A. Horst, P. G. Lange, D. Mahendran, K. Z. Martínez, et al. 2010. *Hanging Out, Messing Around and Geeking Out*. Ed. M. Ito. Cambridge: MIT Press.

Ito, M., K. Gutiérrez, S. Livingstone, B. Penuel, J. Rhodes, K. Salen, J. Schor, J. Sefton-Green and S. C. Watkins. 2013. *Connected Learning: An Agenda for Research and Design*. Irvine: Digital Media and Learning Research Hub.

Jenkins, H. 2006a. *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press.

Jenkins, H. 2006b. Fans, Bloggers and Gamers: Exploring Participatory Culture. NYU Press: New York.

Jenkins, H., R. Purushotma, K. Clinton, M. Weigel and A. Robison. 2006. *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century.* The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning.

Jenkins, H. 2012. Textual Poachers: Television Fans and Participatory Culture. Routledge: New York.

Jenkins, H. 2009. What Happened Before YouTube? In *YouTube: Online Video and Participatory Culture*, ed. J. Burgess and J. B. Green. Cambridge: Polity Press.

Jenkins, H., S. Ford and J. B. Green. 2013. *Spreadable Media: Creating Value and Meaning In a Networked Culture*. New York: New York University Press.

Job Advertisement: CuriousWorks General Manager. 2012. http://curiousworks.posterous.com/curiousworks-is-hiring (accessed

Johnson, S. 2002. *Emergence: The Connected Lives of Ants, Brains, Cities, and Software*. New York: Scribner Book Company.

Jones, S. 2011. *Synthetics: Aspects of Art and Technology in Australia, 1956-1975*. Cambridge: The MIT Press.

Jungnickel, K. 2009. Making WiFi: A Sociological Study of Backyard Technologists in Suburban Australia, Goldsmiths College, University of London, London.

Kelly, O. 1984. *Community, Art, and The State: Storming the Citadel*. United Kingdom: Comedia Publications Limited

Kemmis, S. and R. McTaggart. 1988. *The Action Research Planner*. Geelong: Deakin University Press.

Kirk Robson Award for Digital Community Builder. 2011. http://artery.australiacouncil.gov.au/2011/11/kirk-robson-award-for-digital-community-builder (accessed

Kleine, D. 2013. *Technologies of Choice? ICTs, Development, and the Capabilities Approach*. Cambridge: MIT Press.

Koster, R. 2011. Theory of Fun. http://www.theoryoffun.com/ (accessed October 5).

Latour, B. 2005. *Reassembling The Social: An Introduction to Actor-Network-Theory*, *Clarendon Lectures in Management Studies*: Oxford University Press.

Latour, B. 2008. A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk). Paper read at Keynote lecture for the Networks of Design meeting of the Design History Society, September, at Cornwall.

Lave, J. and E. Wenger. 1991. *Situated Learning: Legitimate, Peripheral Participation*. Cambridge: Cambridge University Press.

Leaving Lanka. 2010. http://curiousworks.com.au/stories/tourable-show-leaving-lanka/ (accessed December 12).

Lessig, L. 2000. *Code and Other Laws of Cyberspace*. New York: Basic Books.

Licklider, J. C. R. and R.W. Taylor. 1968. The Computer as Communication Device. *Science and Technology*. April.

Living Streams. 2012. http://www.liverpool.nsw.gov.au/our-city/our-community/living-streams (accessed

Lovegeek Zine: Interview with Shakthi Sivanathan. 2008. http://lovegeekzine.net/artwork/404741_Shakthi_Sivanathan.html (accessed October 19).

Lovink, G. 2005a. New Media, Art and Science. In *Empires, Ruins and Networks*, ed. S. McQuire and N. Papastergiadis. Melbourne: Melbourne University Press.

Lovink, G. 2005b. The Principle of Notworking: Concepts in Critical Internet Culture. Amsterdam: HVA Publicaties.

Lovink, G. 2011. *Networks Without a Cause*. Cambridge: Polity.

Lundby, K. 2008. *Digital Storytelling, Mediatized Stories: Self-representations in New Media.* New York: Peter Lang Publishing Inc.

Mackenzie, A. 2010. *Wirelessness: Radial Empiricism in Network Cultures*. Cambridge: MIT Press.

Manovich, L. 2000. Post-media Aesthetics: http://www.manovich.net/DOCS/Post_media_aesthetics1.doc.

Manovich, L. 2001. *The Language of New Media*. Cambridge: MIT Press.

Manovich, L. 2008. Software Takes Command: Available under Creative Commons license at http://lab.softwarestudies.com/2008/11/softbook.html.

Mansell, R. 2002. From Digital Divides to Digital Entitlements. *Current Sociology* 50:407-426.

Marcus, G. E. 2007. Ethnography Two Decades After Writing Culture: From the Experimental to the Baroque. *Project Muse*.

Marcus, G. E. and J. Clifford. 1986. *Writing Culture: The Poetics and Politics of Ethnography*. Ed. J. Clifford and G. E. Marcus. Los Angeles: University of Califormia Press.

Martin, R. 2004. Protesting in the 21st century. http://www.abc.net.au/catapult/stories/s1259653.htm (accessed June 24).

Mauro-Flude, N. 2013. Tactical Magick Faerie Circuits. http://www.tacticalmagick.net/about (accessed March 20).

Reconciling the Soft and Fuzzy with the Sharp and Pointy. Artwork. 1998.

McNiff, J. and J. Whitehead. 2009. *Doing and Writing Action Research*. London: Sage Publictions Inc.

McQuillan, D. 2012a. Could Prototyping Be The New Policy? *The Guardian*. May 28. http://www.guardian.co.uk/culture-professionals-network/culture-professionals-blog/2012/may/28/prototyping-replaces-policy-arts-culture

McQuillan, D. 2012b. Critical Hacktivism. http://www.internetartizans.co.uk/critical_hacktivism (accessed November 7).

McQuillan, D. 2012c. Dan McQuillan at OpenAIR

Meikle, G. 2004. Networks of Influence: Internet Activism in Australia and Beyond. In *Virtual Nation: the Internet in Australia*, ed. G. Goggin. Sydney: UNSW.

moddr. 2009. Network [IN] Security Workshop. http://moddr.net/Whyfi (accessed April 18).

Morozov, E. 2011. *The Net Delusion: How Not to Liberate the World.* London: Penguin.

National Cultural Policy: Discussion Paper. 2011. Canberra: Department of the Prime Minister and Cabinet, Office for the Arts.

Neff, G., T. Jordan, J. McVeigh-Schultz & T. Gillespie. 2012. Affordances, Technical Agency, and the Politics of Technologies of Cultural Production. *Journal of Broadcasting & Electronic Media*, 56:2, 299-313

New Geeks In Residence for Arts Organisations. 2012. http://www.australiacouncil.gov.au/news/items/news-features/new-geeks-in-residence-for-arts-organisations (accessed March 6).

Nieusma, D. 2004. Alternative Design Scholarship: Working Toward Appropriate Design. *Design Issues.* MIT Press 20:3, 13-24

Notley, T. 2008. The Role of Online Networks in Supporting Young People's Digital Inclusion and the Implications for Australian Government Policies, Creative Industries Faculty, Queensland University of Technology, Brisbane.

Nussbaum, M. C. 2011. *Creating Capabilities: The Human Development Approach*. Cambridge: The Belknap Press of Harvard University Press.

O'Duinn, F. 2012. Make, DARPA and the Line in the Sand, #1. http://www.librarycult.com/2012/02/make-darpa-one/ (accessed August 27).

O'Dwyer, R. and L. Doyle. 2012. This is not a Bit-Pipe: A Political Economy of the Substrate Network. *Fibreculture Journal* (20).

Oliver, J. and D. Vasiliev. 2011. Newstweek. Berlin.

Oliver, J. and D. Vasiliev. 2012. NETworkshop. OpenHere. Dublin.

OLPC Mission. 2010. http://one.laptop.org/about/mission (accessed June 24).

Outback Theatre for Young People: Geeks in Residence. 2012. http://curiousworks.com.au/stories/outback-theatre-for-young-people-geek-in-residence/ (accessed November 20).

Papacharissi, Z. and E. Easton. 2012. In the Habitus of the New: Structure, Agency and the Social Media Habitus. In *A Companion to New Media Dynamics*, ed. J. Hartley, J. Burgess and A. Bruns. Chichester: Blackwell Publishing.

Paul, C. 2003. *Digital Art*. London: Thames & Hudson Ltd.

Pike, E. 2011. Stories About Storytelling: Social Impacts of Social Enterprise, Centre for Research on Social Inclusion, Macquarie University, Sydney.

A Plan for Action 2005–2007: Promoting Mental Health and Wellbeing. 2005. Melbourne: VicHealth.

Podkalicka, A. and J. Staley. 2009. YouthWorx Media: Creative Media Engagement for 'At Risk' Young People. *3C Media Journal of Community, Citizen's and Third Sector Media and Communication* 5 (October):2-8.

Popper, F. 1993. *Art of the Electronic Age*. London: Thames and Hudson.

Potts, J. D. 2009. The Innovation Deficit in Public Services: The Curious Problem of Too Much Efficiency and Not Enough Waste and Failure. *Innovation: Management, Policy & Practice* 11:34-43.

Powell, A. 2008. WiFi Publics: Producing Community and Technology. *Information, Communication & Society* 11 (8):1068 - 1088.

Powell, A. 2012. Cultures of the "Maker" Movement. http://www.alisonpowell.ca/?p=522 (accessed August 27).

Priest, G. 2006. Nurturing Media Art in the Regions. In *RealTime Arts*.

Prototype Turn, Workshop at ACM Creative & Cognition. 2013. http://uuidsig.wordpress.com/2013/04/22/prototype-turn-workshop-at-acm-creative-cognition/ (accessed May 2).

Quaranta, D. 2010. *Media, New Media, Postmedia*: Postmedia Books.

Rainie, L. and B. Wellman. 2012. *Networked: The New Social Operating System*. Cambridge: MIT Press.

Ratner, C. 2000. Agency and Culture. *Journal for The Theory of Social Behavior* 30:413-434.

Ratto, M. 2011. Critical Making: Conceptual and Material Studies in Technology and Social Life. *The Information Society: An International Journal.* 27:4, 252-260

Ratto, M. and Ree, R. 2012. Materialising Information: 3D Printing and Social Change. *First Monday.* 17:7

Remaking Media Practices: From Tactical Media to Post-Media. 2013. http://www.postmedialab.org/remaking-media-practices-%E2%80%93-tactical-media-post-media (accessed March 19).

Rennie, E. 2006. *Community Media: A Global Introduction*. Maryland: Rowman and Littlefield Publishers.

Rennie, E. and J. Potts. 2012. Diamonds, Pearls and Kimberley Girls: Without Shame in the North-West. *Griffith Review* 36.

Resnick, M. 2002. Rethinking Learning in the Digital Age. In *The Global Information Technology Report: Readiness for the Networked World*, ed. G. Kirkman. Oxford: Oxford University Press.

Rheingold, H. 1993. *Virtual Communities: Homesteading on the Electronic Frontier*. First ed. Cambridge: MIT Press.

Rhodes, C. 2000. *Outsider Art: Spontaneous Alternatives*. London: Thames & Hudson Ltd.

Roberts, B. 1985. Defining Community Arts. *Meanjin* 4:548-552.

Rossiter, N. 2006. *Organized Networks: Media Theory, Creative Labour, New Institutions*. Rotterdam: NAi Publishers.

Sauter, M. 2013. Distributed Denial of Service Actions and the Challenge of Civil Disobedience on the Internet, Comparative Media Studies, MIT, Boston.

Schech, S. and J. Haggis. 2000. *Culture and Development: A Critical Introduction* Oxford: Blackwell Publishing.

Schofield, J.-A. 2012. Does Business Really Care? http://newmatilda.com/2012/08/08/does-business-really-care (accessed September 22).

Schuler, D. 2010. Community Networks and the Evolution of Civic Intelligence. *AI & Society: The Journal of Human-Centered Systems and Machine Intelligence* 25:291–307.

Schuler, D. and P. E. Agre. 1997. *Reinventing Technology, Rediscovering Community: Critical Explorations of Computing as a Social Practice*. Greenwich, CT: Ablex Publishing Corporation.

Schumacher, E. F. 1973. *Small Is Beautiful: A Study of Economics as if People Mattered*. London: Blond and Briggs.

Seely Brown, J. and P. Duguid. 2000. *The Social Life of Information*. Boston: Harvard Business School.

Sefton-Green, J., P. Thomson, L. Bresler and K. Jones. 2011. *The Routledge International Handbook of Creative Learning*. Abingdon: Routledge.

Sen, A. 1999. *Development As Freedom*. Oxford: Oxford University Press.

Sennet, R. 2012. *Together: The Rituals, Pleasures and Politics of Co-operation*. New Haven: Yale University Press.

Shanken, E. A. 1998. The House That Jack Built: Jack Burnham's Concept of "Software" as a Metaphor for Art. *Leonardo Electronic Almanac* 6 (November).

Shanken, E. A. 2012. Investigatory Art: Real-time Systems and Network Culture. *NECSUS European Journal of Media Studies* 22 (November).

Shea, P. 2009. Anycast: Dare to Share. Belfast: International Symposium of Electronic Art.

Shea, P. 2011. Visualising Invisible Networks as Collaborative Arts Practice. In *International Symposium of Electronic Art (ISEA)*. Istanbul, Turkey.

Shea, P. 2013. Resistance is Feral: Digital Culture, Community Arts and the New Cultural Gatekeepers. In Cleland, K., and Harley,R. (eds.) *Proceedings of the 19th International Symposium of Electronic Art, ISEA 2013,* ISEA International, the Australian Network for Art and Technology and the University of Sydney, Sydney.

Sivanathan, S. 2008. Project :: Kinect. http://curiousworks.com.au/stories/project-kinect-2008/ (accessed May 19).

Slack, J. D. and J. M. Wise. 2005. *Culture and Technology*. New York: Peter Lang Publishing Inc.

Smith, M. K. 1999. What is Praxis? http://www.infed.org/biblio/b-praxis.htm (accessed June 12).

Smith, M. K. 2012. Community Development. http://www.infed.org/community/b-comdv.htm (accessed December 3).

Spurgeon, C. 2011. Digital Storytelling and Co-creative Media: the Role of Community Arts and Media in Propagating and Coordinating Population-wide Creative

Practice. http://www.australiacouncil.gov.au/research_hub/arts_rippa/ (accessed November 5)

Spurgeon, C. 2013. Platforms and Publics - Session 3: Co-Creative Communities.

Star, S. L. 1999. The Ethnography of Infrastructure. *American Behavioural Scientist.* Sage Publications 43 (3):377-391.

Stark, D. 2009. *The Sense of Dissonance: Accounts of Worth in Economic Life*. Princeton: Princeton University Press.

The Stories Project: About. 2010. http://thestoriesproject.com.au/about/ (accessed December 12).

Tabrett, L. 2013. It's Culture, Stupid! Reflections of an Arts Bureaucrat. *Platform Papers* 34. http://www.crikey.com.au/2013/02/01/not-just-a-whole-lot-of-nice-gigs-life-in-arts-bureaucracy/

Tacchi, J. A., G. N. Hearn and D. Slater. 2003. *Ethnographic Action Research: A Users Handbook Developed to Innovate and Research ICT Applications for Poverty Eradication*. New Delhi: United Nations Educational.

Toffler, A. 1970. *Future Shock*. London: Pan Books Ltd.

TreasureMapper. 2011. http://treasuremapper.netniet.org/ (accessed July 22).

Trend, D. 1997. *Cultural Democracy: Politics, Media, New Technology*. Albany: State University of New York Press.

UNESCO. 2004. *Congress on Cultural Rights and Human Development*. Barcelona.

van Dijck, J. 2009. Users like you? Theorizing Agency in User-Generated Content. *Media Culture Society* 31 (1):41-58.

van Dijck, J. 2013. *The Culture of Connectivity: A Critical History of Social Media*. Oxford: Oxford University Press.

Vanni, I. and J. Mowbray. 2008. Ripple Effects: Community Building, Participation and Cultural Citizenship Through Creative Practices in Western Sydney. http://www.australiacouncil.gov.au/research_hub/arts_rippa/ (accessed November 5)

Visualising Information for Advocacy: An Introduction to Information Design. 2008. edited by O. S. Institute. Delhi: Tactical Technology Collective.

Vivienne, S. and J. Burgess. 2012. The Digital Storyteller's Stage: Queer Everyday Activists Negotiating Privacy and Publicness. *Journal of Broadcasting & Electronic Media* 56 (3).

Von Busch, O. and K. Palmas. 2006. *Abstract Hacktivism: The Making of a Hacker Culture*. London and Istanbul: In collaboration with OPENMUTE.org.

Wark, M. 2004. *A Hacker Manifesto*. Cambridge: Harvard University Press.

Warschauer, M. 2002. Reconceptualising the Digital Divide. *First Monday* 7 (7).

Weaver, C. and S. Ford. 2013. Learning to Be a Responsible Circulator. New York: NYU Press.

Westbury, M. 2011. National Cultural Policy Submission. Sydney.

Winner, L. 1986). *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago: University of Chicago Press 19-39.

White, B. 2011. Software Studies. In *Beyond ICT4D: New Media Research in Uganda*, ed. G. Lovink. Amsterdam: Institute of Network Cultures.

Whitelaw, M. 2004. *Metacreation: Art and Artificial Life*. Cambridge: MIT Press.

Williams, R. 2005. *Culture and Materialism*. Verso, London.

Wilson, C. K., J. Hutchinson and P. Shea. 2010. Public Service Broadcasting, Creative Industries and Innovation Infrastructure: The Case of ABC's Pool. *Australian Journal of Communication* 37 (3):15-32.

Working With Communities: Artists in Conversation, Shathki Sivanathan. 2011. http://curiousworks.com.au/stories/working-with-communities-artists-in-conversation-shakthi-sivanathan/ (accessed August 2011).

Wyn, J., H. Cuervo and D. Woodman. 2005. *Young People, Wellbeing and Communication Technologies* Melbourne: University of Melbourne.

The Interventionist's Toolkit. Design Observer. 2011.

Zittrain, J. 2008. *The Future Of The Internet And How To Stop It*. New Haven: Yale University Press.

Zuckerman, E. 2013. How Do We Teach Digital Civics? Paper read at DML2013 Democratic Futures, at Chicago.

Appendix 1: Data Coding Tables

Table 1: Guiding Interests	
DIY Experimentation Hacks Remix/Rewrite R&D Making Beta Models Beta-testers Heterarchies	Community Cultural Development Informal Education Sustainable Practice Building Agency Train the Trainer Creative Learning Evaluation Organising Organisational Identity Practitioner Identity Individual Identity Organisational Innovation
Creative Commons Knowledge Commons Open Source Open Access	Community Management Network Broker
Telematic Art Media Art	Production Storytelling
Cultural Democracy Critical Participation Conscientization Cultural Rights Cultural Policy	Network-making Software Politics Network Literacy Networks of Practice

Table 2: Guiding Interests (logical matrix framework)	
GOALS	Sustainable Practice Cultural Democracy Critical Participation Conscientization Network Agency Cultural Rights Cultural Policy Organisational Innovation Heterarchies
PURPOSE	Network Literacy Open Source Open Access Community Cultural Development Informal Education Organisational Identity Practitioner Identity Individual Identity Creative Learning Train the Trainer Building Agency Organising Content Literacies Understanding Software Politics
OUTPUTS	Creative Commons Knowledge Commons Media Art Telematic Art R&D Community Management Beta Models Networks of Practice Innovation Commons
ACTIVITIES	Experimentation DIY Hacks Remix/Rewrite Making Network-making Network Broker Production Storytelling Evaluation Beta-testing

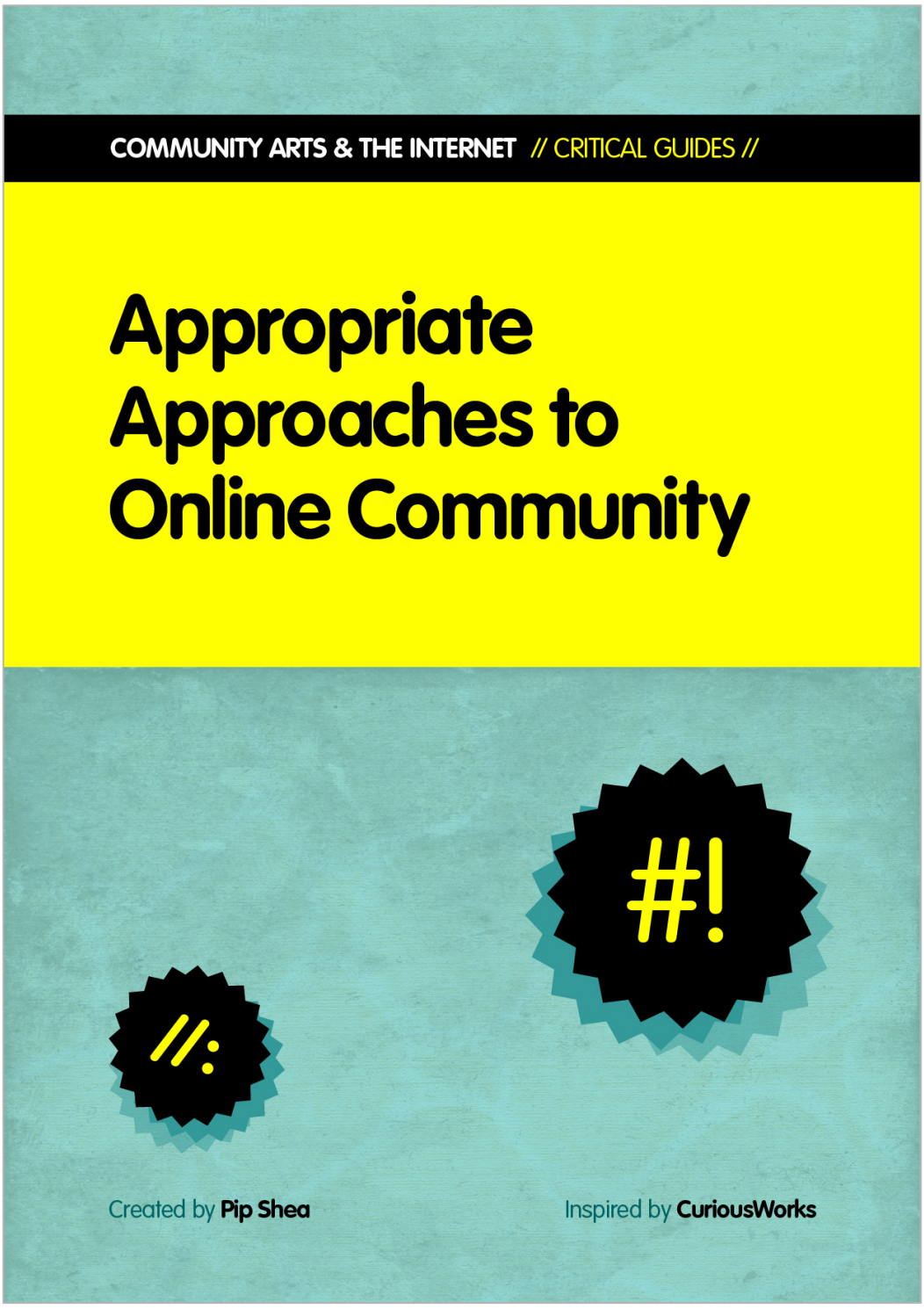
Table 3: Senstitizing Concepts
Sustainable practices Network-making Network broking Network literacies Network agency

Table 4: Initial coding
CW Storytelling CW Rhetoric CW Models/Services CW Projects CW Enterprise Training CW Schools Programs CW Make/Hack/Mod CW Web Publishing Strategies CW Networked Practices CW Partnerships/Relationships CW Internal Communication CW Operations CW Research and Experimentation CW Human Resources CW Funding and Evaluation CW Redundancy Community Arts Community Arts Policy Me/Researcher My Demonstrated Practice Research Methods

Table 5: Focused Codes
CW Networked Practices CW Models CW Ethics CW Make/Hack/Mod CW Research and Experimentation CW Web Publishing Strategies CW Internal Communication CW Operations CW Funding and Evaluation CW Redundancy Community Arts Policy Research Methods

Table 6: Theoretical Coding
1. The Case for CW Influences Operations Ethics Appropriate Cultural and Technological Approaches Techno-pragmatism
2. Make, Hack, Mod: research and experimentation as community arts practice Performative Making Making Networks Making Software Making Hardware Tinkering Hacking Remixing Agile Processes Play Innovation Materiality
3. Connect, Broker, Translate: the internet and community arts practice Information Broking Algorithmic Thinking Network Visualisation Networks of Practice Publishing Models Making Connections Relationship Building Networked Place-making Digital Commons Network Agency

Appendix 2: Appropriate Approaches to Online Community (Booklet)



About Community Arts & the Internet Critical Guides

Community Arts and the Internet Critical Guides are being developed to nurture **critical Internet practices** among grassroots culture-makers.

Pitched at community artists, cultural development workers, and educators, the guides explore the idea that being a critical cultural producer in the Internet era involves more than learning software and making content – it demands an understanding of how to contribute and respond to **emergent modes of participation and connection**.

The guides outline conceptual and practical ideas to use as critical **points of departure** in projects that involve the Internet and other digital communications networks.

Community Arts & the Internet Critical Guides are the work of Pip Shea and form part of her PhD inquiry. They were inspired during a period of fieldwork at CuriousWorks, an Australian organisation whose practices lie at the intersection of emergent network technologies and creative learning.

The booklets were created with the support of the Queensland University of Technology (QUT) and the ARC Centre of Excellence for Creative Industries and Innovation (CCi).

Author // Pip Shea
Date // November 2012

communityarts andtheinter.net

creative commons

Introduction

This guide considers the development of **online community networks** from the perspective of community arts practitioners. It explores multiple aspects of making networks, to help practitioners develop **appropriate Internet practices** – network solutions that take the specific needs of individuals and communities in to consideration. The guide promotes **critical approaches** to online community building, to encourage the continuation of creative practices beyond community arts projects.

In the following pages, you'll be offered **6 considerations** to help you navigate the process of developing online community. Regardless of what type of online network you want to nurture, the guide will provide some food for thought regarding the most appropriate solution for your project.

A Summary of the **6 Considerations**:

1. longevity, the network's shelf-life;

2. interoperability, whether the network 'talks' to other relevant software;

3. usability, the experience of the user;

4. hackability, whether the network can be modified;

5. invisibility, the less visible implications of use;

6. governance, community guidelines, voice, and community management.

1

Longevity.

The network's shelf-life.

Although it's difficult to know how long your network might flourish, estimating how long it will remain in use is something to consider. The proposed life span of the network will help determine suitable technological solutions, based on such things as software stability and ongoing costs.

Understanding the social implications of both temporary and ongoing networks is also important. In some situations, there will be a minimal impact if a network is there one day and gone the next; but in others, this might affect whether the project has a lasting impact.

Practitioners should also bear in mind that network participation will ebb and flow. In other words, participants will bail out of the network, so consider it an acceptable form of action to plan for (Lovink 2005, p12).

An **example** might be:

Community artist Fatima is about to lead a Scratch project with a group of 14 year old girls (Scratch is a programming language that makes it easy to create interactive media). Fatima wants there to be an online community aspect to the project so the girls can share the media they make, then rate and comment on their peers' work. Fatima decides to use the existing Scratch online community for her project, as she feels the girls have a level of creative agency that will enable them to become involved in a wider media sharing network. She is aware this 'community' might be temporary, but is confident this will not have a negative impact on the individuals involved.

Questions to **ask yourself:**

1. What are the reasons for making the network temporary/ongoing?
2. How stable do I need in the networking technologies to be? How do I measure this?
3. How can I manage my own expectations of participation levels?

2

Interoperability.

Whether the network 'talks' to other relevant software.

Interoperability describes the ability to interface with, or 'talk to' software and hardware. If two things are interoperable, the lines of communication are open and flowing. Like most things, this process can be perceived as having potential benefits (innovation and competition); as well as potential drawbacks (security and accountability) (Gasser and Palfrey 2007).

Interoperability becomes a big issue for community artists when projects require the use of several 'free' software services that need to communicate with each other.

The idea extends beyond technical communication, to describe solutions that make creative content interoperable – for example, whether the network offers Creative Commons licensing for content uploads and remixing.

An **example** might be:

Community artist Waleed is about to lead a locative media project with a group of refugees. The creative output of the project utilises a smart phone augmented reality app to display remixed music videos. Waleed's challenge is to find an app that will run on all the major mobile platforms, that 'talks to' free mapping software. If Waleed is unsuccessful, he can elist outside help, or shift the scope of the project.

Questions to **ask yourself:**

1. Will the project benefit from choosing network technologies that offer interoperable protocols and formats?
2. How can I plan for interoperability issues that might arise?
3. Does the network allow creative content to become interoperable?

3

Usability.

The experience of the user.

The needs and potential desires of the user must be considered when devising community networks online. A balance must be struck between choosing technologies they can use, and technologies they can learn to use. Some people will be agile learners, others will have difficulty incorporating new technologies in to their lives and creative processes.

A good way to assess usability is through developing an understanding of your participants' "communicative ecology" – the various devices and applications they already use to communicate (Hearn and Foth 2007).

By developing a picture of existing technologies, practitioners are less likely to make assumptions about what people are using, how they are using it, and what they might want to use.

An **example** might be:

Community artist Jove is about to lead a digital animation project with a group of young men. She wants to develop a temporary online community as part of the project, so the men can share their work with each other. After conducting some activities with the group about the ways they use the Internet, she realises that participation in the online community will mostly happen via mobile phones. She then goes about trying to understand what the implications of this method of participation will be.

Questions to **ask yourself:**

1. What kinds of technology do my participants have access to?
2. How might my participants want to be involved in the network?
3. What other kinds of tools and technology might this particular group respond to?

4

Hackability.

Whether the network can be modified.

Hacking, or modding (modifying) can be thought of as a form of DIY intervention that aims to subvert designed systems. It is a method of traversing digital technologies that allows users to manipulate tools beyond the original intention of the designer.

Modding practices are well suited to community arts and informal education as they encourage practitioners to overcome the limitations of software platforms, innovating in subtle ways.

The wonderful thing about the hacking process in relation to the Internet is that it brings "political questions back in to the light, subverting closed and hidden functions and uses of networks" (Von Busch and Palmas 2006).

An **example** might be:

Community artist Sonny, is about to lead a digital photo sharing project with a group of teenagers. Sonny decides to use Flickr to develop a community online, as their open API (application programming interface), allows for accessible, legal modding of their photo sharing service. As Sonny develops the project with the group, he scours the already available software hacks. He and the group decide that in order for their ideas to be realised, further hacking of the Flickr API must occur. No-one in the group has the software programming skills to do this, so they employ a computer science student from a nearby university to make it for them.

Questions to **ask yourself:**

1. How might I mod the technology with my existing skills?
2. How might I mod the technology through research and experimentation?
3. How might I collaborate with others to mod the technology?

5

Invisibility.

The less visible implications of use.

Digital communications networks can be described as consisting of seven layers: the physical layer, link layer, network layer, transport layer, session layer, presentation layer, and application layer. Most Internet users are only conscious of the application layer, as this is the part of the network infrastructure that is most visible to them e.g. software interfaces.

Multiple human and non-human actors affect your network use in those other 6 layers. These include software protocols, government policies, and private companies who own the submarine cables that carry network traffic.

When designing and making your network, think about how the structures and dynamics of these various levels of network infrastructure might affect your project and your participants.

An **example** might be:

Community artist Kim is about to lead a digital storytelling project with an LGBT group. Some of the participants do not want their sexual orientation or gender reassignment to be made public, but they do want to share their stories online. Kim is aware that many commercial media sharing platforms sell information to third party advertisers who create user profiles associated with computer IP (internet protocol) addresses. This can lead to targeted Internet advertising that has the potential to reveal sensitive inofrmation. Kim decides to use a WordPress installation on her own server, to allay concerns her participants might have regarding such practices.

Questions to **ask yourself:**

1. How might I describe who or what controls the network technology?
2. Does my project suit the terms and conditions the technology specifies?
3. Am I compromising my own, or my participants' security or privacy by choosing a commercial or proprietary networking technology?

6

Governance.

Voice, community guidelines, and community management.

Network governance – this concept may sound dull, but it is an important aspect of online communities. You and your participants will need to make decisions about what tone of voice to foster in the network; what boundaries to implement via community guidelines; and, how to stimulate, moderate, and nurture the network using community management techniques.

Different projects will have different governance considerations. These might be based on financial or human resources, or cultural appropriateness.

Make decisions based on a realistic assessment of how much energy you and your participants have for network governance. This will help manage the expectations of all the project stakeholders. And remember … "governance does not suck" (Bacon 2009, p213).

An **example** might be:

Community artist Shonagh is about to build a password protected online network, she hopes will become a permanent resource for the community she is working with. Shonagh facilitates a series of meetings with her project's steering committee to discuss how the network will be governed. Fortunately, all the stakeholders see the ongoing success of the network reliant on a part-time community manager, and they commit to funding the role. The group also agrees that the community guidelines will be developed once the community manager has been appointed.

Questions to **ask yourself:**

1. What tone should the network have?
2. How should the community guidelines be configured?
3. How will the network be managed? Who will manage the network?

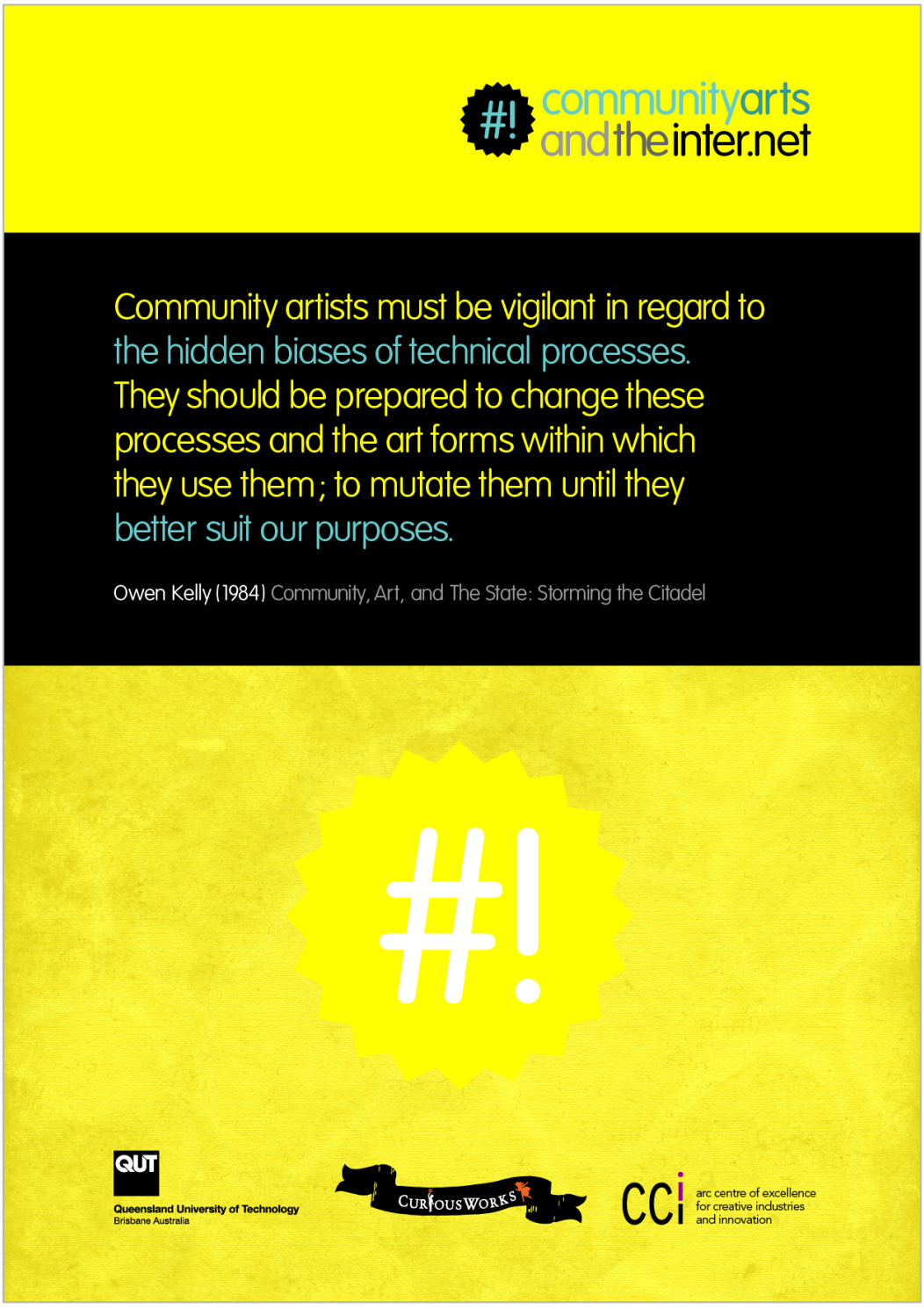
Open Conclusion...

Deploying Internet technologies and practices in a community arts context, involves a survey of what is appropriate for a given project. This process requires practitioners to think broadly about experiences of technology, to readjust their practices, improvise, and create or dismantle boundaries.

This booklet's approach to online community building as a creative activity involving a conceptual inquiry, guides practitioners beyond existing or dominant ways of thinking, helping them preempt issues and articulate appropriate approaches - the lasting effect of this method being that practitioners become more willing to reflect on their actions and motivations, and more open to designing collaborative systems that are "an artful fit between technique, tool, human, moral, and environmental limits" (Drengson 1982).

References

1. Bacon, J. 2009. **The Art of Community.** Sebastopol, California: O'Reilly Media
2. Drengson, A. R. 1982. **Four Philosophies of Technology.** Philosophy Today 26 (2):103.
3. Gasser, U. and J. Palfrey. 2007. **When and How ICT Interoperability Drives Innovation, Breaking Down Digital Barriers**: The Berkman Centre for Internet and Society at Harvard Law School and The University of St. Gallen.
4. Hearn, G. N. and M. Foth. 2007. **Communicative Ecologies**: Editorial Preface. Electronic Journal of Communication 17:1-2.
5. Lovink, G. 2005. **The Principle of Notworking: Concepts in Critical Internet Culture.** Amsterdam: HVA Publicaties.
6. Von Busch, O. and K. Palmas. 2006. **Abstract Hacktivism: The Making of a Hacker Culture.** London and Istanbul: In collaboration with OPENMUTE.org.


communityarts
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Community artists must be vigilant in regard to the hidden biases of technical processes. They should be prepared to change these processes and the art forms within which they use them; to mutate them until they better suit our purposes.
Owen Kelly (1984) Community, Art, and The State: Storming the Citadel
#!
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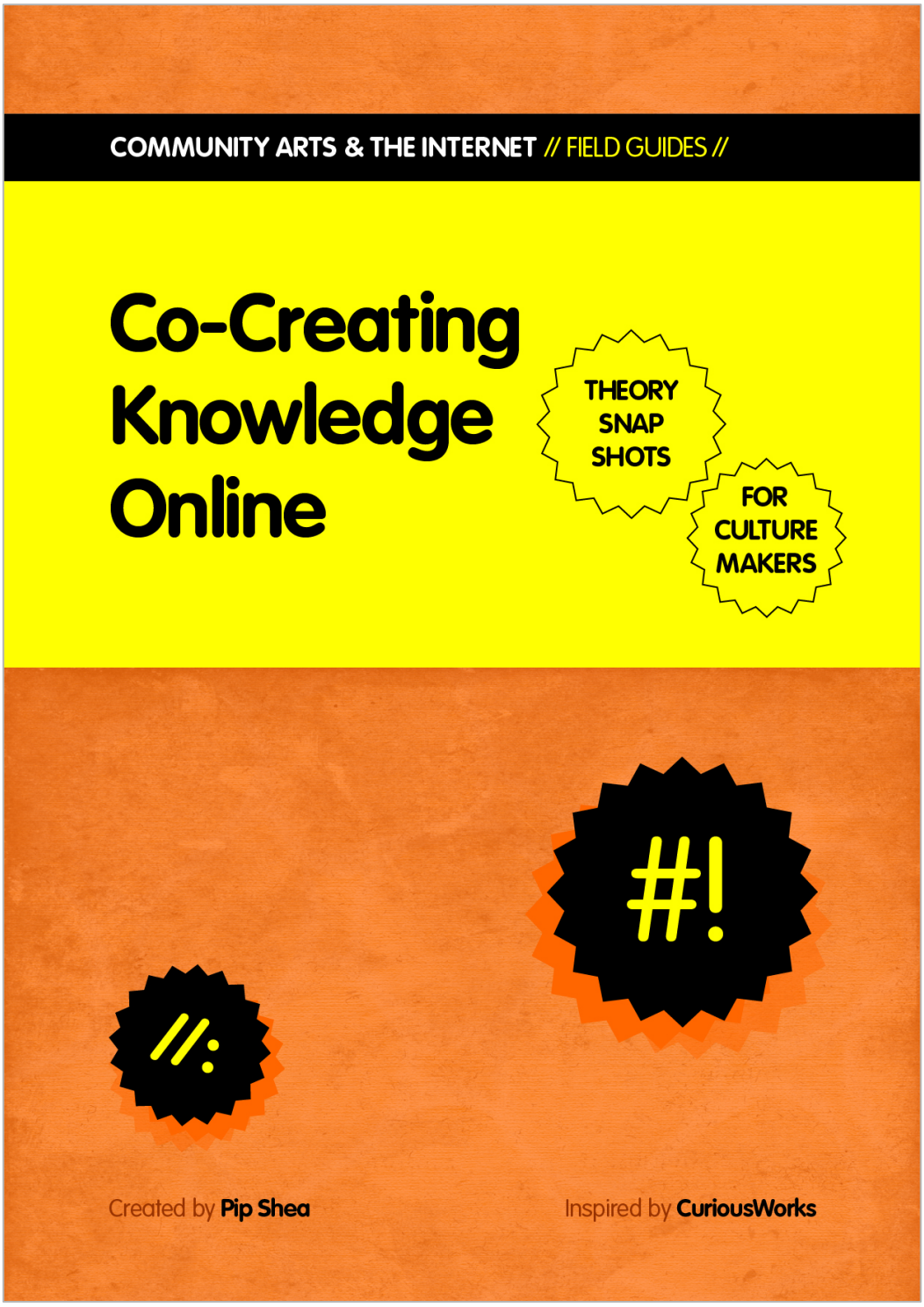
and innovation

Appendix 3: Co-Creating Knowledge Online (Booklet)



About Community Arts & the Internet Field Guides

Community Arts and the Internet Field Guides have been developed to nurture critical Internet practices among culture-makers.

The guides outline conceptual and practical ideas to use as critical **points of departure** in projects that involve the Internet and other digital communications networks.

Pitched at community artists, cultural development workers, and educators, the guides explore the idea that being a critical cultural producer in the Internet era involves more than learning software and making content, it demands an understanding of how to contribute and respond to **emergent modes of participation and connection**.

Community Arts & the Internet Field Guides are the work of Pip Shea and form part of her PhD inquiry. The examples offered in the booklet were inspired by the practices of CuriousWorks, an Australian organisation working at the intersection of emergent network technologies and creative learning.

The booklets were created with the support of the Queensland University of Technology (QUT), the ARC Centre of Excellence for Creative Industries and Innovation (CCi), Jean Burgess, John Banks, and Oksana Zelenko.

Author // Pip Shea
Date // March, 2013
Version // 1 BETA

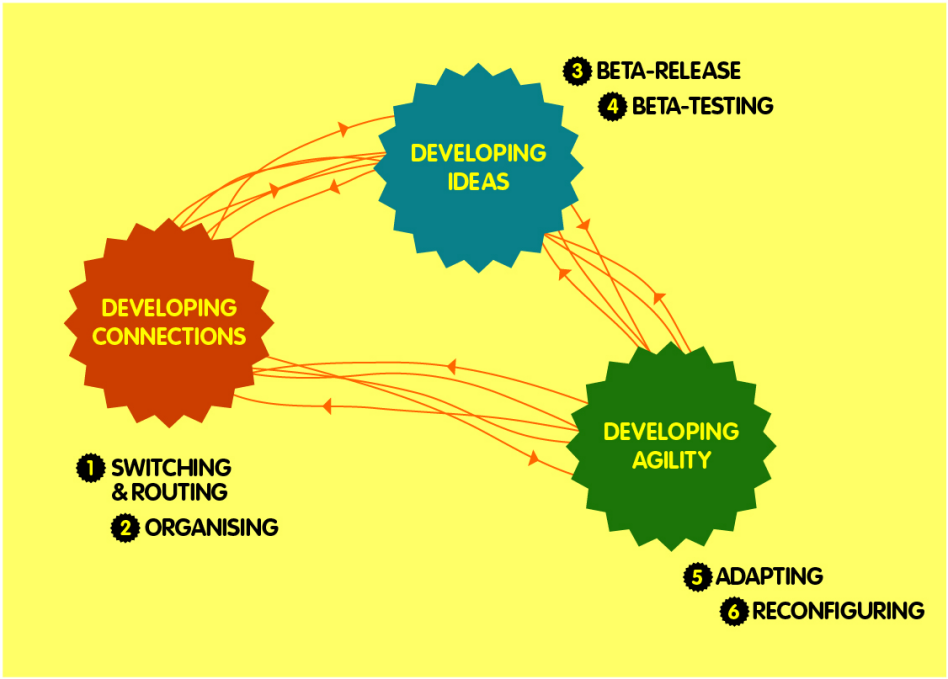
communityarts andtheinter.net

creative commons

Introduction

Forming peer alliances to share and build knowledge is an important aspect of community arts practice; however, different methods are required to foster the **sharing** and **organising** activities that underpin online knowledge co-creation. This booklet is offered as a guide for practitioners who are interested in better utilising the Internet to **connect**, **share** and **make new knowledge**. It builds on the premise that people have become increasingly networked as individuals rather than in groups[1] and that these new ways of connecting enable new modes of **peer-to-peer co-creation**.

The booklet suggests 3 development phases that do not occur in any particular order – developing **connections**, developing **ideas**, and developing **agility** – to ground the 6 activities below. I hope it helps!



1

Switching & Routing.

DEVELOPING CONNECTIONS

Exchanging small trades of ideas with networked individuals.

An **example** might be:

Community artist Felix is frustrated with the continuously changing interface and terms and conditions of a popular social media sharing network. He decides to seek out alternative solutions and finds three free media sharing community platforms. Felix sends out three Twitter messages to his followers asking for reviews and use cases. He makes sure to add the hashtag #communityarts to his tweets to distribute his call-out beyond his own network of followers.This action offers new information to some, and to others it poses an opportunity for dialogue, or to feed back their own experiences.

Theory snapshot:

Networks of individuals are well positioned to trade knowledge. They share ideas and resources in the hope that they will receive something of value in return: more ideas, new feedback, or stronger connections with other individuals.[2] It can be helpful to think about these trades in two ways: switching and routing. Switching describes informal, peer-to-peer communications, over social networks. Routing describes finding new routes for new systems and ideas to encourage knowledge spillovers in to new networks. Switching and routing activities develop connections, and highlight opportunities for future interdisciplinary co-creation.

Questions to **ask yourself:**

1. What information do I want to communicate?
2. Which networks of individuals am I communicating to?
3. How can I trigger a knowledge spillover in to a new network of individuals?

2

Organising.

DEVELOPING CONNECTIONS

Co-ordinating networked individuals and their data.

An **example** might be:

Suki has an idea to highlight the geographical connections between grassroots arts projects. She plans to make a website that plots different projects and related content on to a Google map. She doesn't want to ask people manually upload content to the map, as she feels that practitioners are too time-poor to continue the practice. Her idea is to encourage practitioners to add geotags to the content they are already publishing online. This way, material from any number of practitioners and participants will automatically appear in her map. She posts instructions on how to add geotags to videos and photos on her blog, then organises a coffee meeting with 3 practitioners she knows to pitch her idea.

Theory snapshot:

Digital communications networks offer us opportunities to organise ourselves, and our data in new ways. Knowledge has the chance to grow and develop exponentially through new configurations of people designing new configurations of information. Networks offer 'communities of promise':[3] networked individuals who can adjust their systems to collaborate in the authorship of futures. Social momentum helps sustain these new organising activities, as networked individuals work with people where they are at, on their own terms.[4] 'Fleshmeets' – face-to-face gatherings – help "maintain momentum, revitalize energy, consolidate old friendships and discover new ones".[5] They offer opportunities for ideas to be recast before more activities are planned.

Questions to **ask yourself:**

1. How might I reorganise existing data to reveal new connections?
2. At what point do I organise a fleshmeet to discuss new projects?
3. What are the expectations of my collaborators?

3

Beta-Release.

DEVELOPING IDEAS

Offering 'beta' artifacts as knowledge trades.

An **example** might be:

Orlaith has designed a workshop plan for a project she is running in her local community theatre. Before running the workshop, she decides to post her planned activities on her blog, to see if she can gather some feedback or modifications to her design. She offers the workshop plan as a free PDF and asks for feedback in return for its use. Orlaith specifies that if people give her feedback, she will acknowledge their contribution on the project website by linking to their site or blog. Orlaith also uses the feedback and analytics data in her project acquittal, to make the claim that her project contributed to her field of practice, in addition to being beneficial for project participants.

Theory snapshot:

Releasing knowledge artifacts in 'beta' is a method of online co-creation that solicits feedback from networked individuals. It is another way to trade ideas online. The process should aim to offer networked individuals something of value – a new tool or resource – in the hope that they will review or modify it. Making things to share online is a craft process that situates artifacts in a social dimension. Making, therefore, is a process of connecting in and of itself.[6] The beta-release establishes rules for participation, and specifies guidelines for attribution.[7] This process helps frame the knowledge offering as a trade – for feedback or modification – rather than an unconditional gift. It replaces notions of best practices with 'beta' practice.

Questions to **ask yourself:**

1. How can my beta artifact offer value to beta-testers?
2. How can I garner specific feedback from beta-testers?
3. How can I make it simple for beta-testers to modify my artifact?


HALF
WAY

4

Beta-testing.

DEVELOPING IDEAS

Trialing and modifying other people's 'beta' artifacts.

An **example** might be:

Community artist Peter, finds a YouTube tutorial describing how an infrared gaming remote has been used to simulate the experience of painting with spray paint. Peter decides he will teach young people how to make the devices in a community art project. He registers that the original creator of the video tutorial has asked for people to make and upload response videos to YouTube if they go ahead and use the technique. So at the end of the project, Peter cuts together a video that documents how he has applied, and modified, the original infrared spray painting idea. He then alerts the original creator that he has uploaded his response video. The original creator posts Peter's video on his blog, then messages Peter to let him know.

Theory snapshot:

Beta-testing describes the process of offering suggestions for changes, or directly changing, a beta-release. Beta-testers are hackers, disruptively innovating to embrace the right to manage their own development. Beta-testers understand the value of trading knowledge, and revel in establishing new and unofficial narratives.[8] They take pleasure in tweaking ideas and customising artifacts to make alternative viewpoints visible. Beta-testers are scavengers, gleaning the web for experiments that might prove useful for their purposes. They do this while respecting the boundaries established around the beta-release.

Questions to **ask yourself:**

1. How can I develop methods to glean the web for 'beta' artifacts?
2. How can I appropriate 'beta' artifacts?
3. How can I feed my findings back to the original creator?

5

Adapting.

DEVELOPING AGILITY

Responding to technological disruption.

An **example** might be:

Community artist Sean, was about to start working on a project that would see him away from the company office for 3 months. He was keen to find a way to communicate, and co-create with his co-workers while he was away. He decided to use Posterous, as his company was already using this blogging platform as a communications tool. The system worked well for a while – the company co-authored grant applications, acquittals, and workshop plans – until Sean discovered Twitter had purchased Posterous. He anticipated Posterous would lose many of its developers and suffer as a service. Sean began migrating their data to a new service; and when Posterous announced it was shutting down, his company was not affected.

Theory snapshot:

Free social networking and media sharing platforms have already proved invaluable to the under-resourced community sector. However, using these services requires anticipating the inevitable disruptions that are bound to be caused by changes to the ways they are organised and controlled. By developing peripheral vision for these emergent dynamics and by consciously registering changes to things like software interfaces, and terms and conditions,[9] community artists can anticipate when technology is shifting from being appropriate, to inappropriate. This need to maintain agility in proprietary web service environments, creates an argument for keeping digital data agile.

Questions to **ask yourself:**

1. How might my tools be disrupted by the company who owns the service?
2. Have my tools become innappropriate for the given context?
3. How can I keep my communications data agile?

6

Reconfiguring.

DEVELOPING AGILITY

Embracing opportunities offered by technological disruption.

An **example** might be:

Collaborators Katie and Fiona have been asked to present some of their recent projects at a community arts conference. They decide to begin their co-creation process in Google docs, making notes in a shared document. They have spent roughly 3 hours each writing notes for the presentation. One morning Fiona and Katie realise their Google accounts have been hacked, and that they have lost the record of their collaboration. Over email, Fiona suggests they change their co-creation tool to Prezi. Niether of them have used Prezi but Fiona has heard positive accounts of others collaborating with the software. They eventually see their data loss as a blessing in disguise, as their new tool allows them to share ideas in a non-linear format.

Theory snapshot:

Perplexing situations provoke innovative inquiries,[10] and technological disruption is one such beast. So instead of avoiding it, or feeling beaten by it, we may think about the opportunities technological disruption affords us: it may help us re-think ideas, re-evaluate methods, and re-make artifacts. These processes of reconfiguration are the challenging tasks of ongoing innovation, and action is often made possible precisely because of unstable ground: the fertile ground of ongoing innovation.

Questions to **ask yourself:**

1. Is this disruption an opportunity to re-configure my methods or tools?
2. How might I reconfigure my methods or tools?
3. Did the reconfiguring process produce better methods or tools?

Open Conclusion...

Culture makers can tune their online knowledge co-creation activities through developing new ways of connecting, new modes of developing ideas, and new methods for designing artifacts.

Through trading knowledge, and organising networks of individuals to establish rules for participation, collaboration can traverse new ground through beta-releases and beta-testing. Co-creation processes can also undergo incremental development if new agile approaches are configured as a result of technological disruption.

These networks of cooperating peers also route new knowledge beyond their own networks of peers to re-cast ideas into new contexts.

References:

1. Rainie, L. and B. Wellman. 2012. **Networked: The New Social Operating System.**
2. Benkler, Y. 2006. **The Wealth of Networks.** (free PDF online)
3. Brown, N. 2006. **Shifting tenses: from 'regimes of truth' to 'regimes of hope'.** (free PDF online)
4. Sennet, R. 2012. **Together: The Rituals, Pleasures and Politics of Co-operation.**
5. Rossiter, N. 2006. **Organized Networks: Media Theory, Creative Labour, New Institutions.** (free PDF online)
6. Gauntlett, D. 2011. **Making is Connecting: The Social Meaning of Creativity, From DIY and Knitting to YouTube and Web 2.0.**
7. **Collaborative Futures**, FLOSS Manual (free PDF online)
8. Wark, M. 2004. **A Hacker Manifesto.** (free PDF online)
9. Barzilai-Nahon, K. 2008. **Toward a theory of network gatekeeping: A framework for exploring information control.** (free PDF online)
10. Stark, D. 2009. **The Sense of Dissonance: Accounts of Worth in Economic Life.**

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Community artists must be vigilant in regard to the hidden biases of technical processes. They should be prepared to change these processes and the art forms within which they use them; to mutate them until they better suit our purposes.

Owen Kelly (1984) Community, Art, and The State: Storming the Citadel

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Appendix 4: Semi-Structured Interviews

I used the following questions to guide in-depth interviews I conducted with CuriousWorks practitioners, Shakthi Sivanathan, Elias Nohra, and Eleanor Winkler, in September 2012.

1. CuriousWorks' Practices and Identity

How would you describe the operations of CuriousWorks?

What common elements do CuriousWorks projects share?

How does CuriousWorks attempt to differentiate itself from similar organisations?

Explain the CuriousWorks' 'redundancy' approach?

What type of work do you see CuriousWorks doing into the future?

If CuriousWorks had unlimited resources, what type of work do you think you would be doing?

How important are the individual perspectives and personalities of CuriousWorkers in daily operations?

Do you feel you have an equal gender spread across project participants?

Is there any news on the key producers application?

How is the Another Australia project traveling?

Is Curious Classroom still in the works?

How is the Enterprise Crew model traveling?

2. CACD Practices and Identity

What is your understanding of the term Community Arts and Cultural Development?

How did you learn about CACD?

What are your feelings about this term?

What is it about CACD work that separates it from formal education?

Do you consider CuriousWorks to be a CACD org?

Are your practices restricted by selection criteria promoted by CACD funding bodies?

3. Practitioner Identity

Which terms best describe the work you do with CuriousWorks?

a. Education
b. Art
c. Community Arts and Community Cultural Development
d. Storytelling
e. Making
f. Research and Development

How would you describe the paid work you did before you joined CuriousWorks?

What type of creative work do you personally like doing?

Do you consider yourself a mentor?

Do you have any higher education qualifications?

All four core staff have expressed that their favourite projects are those that use all the different parts of CuriousWorks – a holistic approach. Why is this approach important to you?

How much agency do you feel you have as a practitioner working in this field?

Do you feel you are able to influence government policies that affect your field?

5. Network Research and Experimentation

How often do you facilitate creative projects that rely on the Internet?

What networking technologies do you use?

How do you research network technologies?

How do you experiment with network technologies?

How often do you find yourself modding or modifying network technologies to better suit your needs?

How often do you find yourself making network systems in your projects?

How would describe the term ‘appropriate technology’?

As a practitioner, how do you approach the practice of appropriate technology?

In the context of creativity and the Internet, what might be some considerations for appropriate technology?

How easy or difficult is it to evaluate whether the technology used within a project is appropriate?

6. Network Mediation

Do you consider part of your role to broker information across networks?

What are your thoughts on mentoring people over the Internet? How might this role differ from mentoring in a workshop context?

How do you use network technologies for relationship building?

How do you go about developing networked publishing models with your project participants?

Do you use digital networks for 'place-making'?

Do you think network users have adequate ways to describe networked technologies?

Do you ever visualise digital networks in your projects?

Do you think the creative and digital commons has changed the CACD field?

7. Network Agency

Do you teach your project participants how to develop boundaries when using the Internet? How?

Could you describe how you develop your own boundaries around network use?

Do you think critically about your network use?

Do you think using the Internet critically is important for a CACD practitioner?

What do you see are the barriers for having critical Internet practices?

8. Booklet #1

How would you describe the way you consumed this booklet? Did you scan it, or read it thoroughly: did you look at it on an electronic device, or print it out?

How might you sum up your experience of the booklet?

What criticisms do you have of the booklet?

Have you found the booklet helpful?

Can you see how this booklet emerged from CURIOUSWORKS?

How do you think the booklet might be improved?

Is it something you might be interested in distributing across your networks?

Do you think the booklets should be CC licensed?

Do you have any ideas about what other network field guides might be helpful for CACD practitioners and informal educators?

9. Being Researched

What has been your personal experience of being ‘researched’?

Would you, and CuriousWorks like to collaborate with academic institutions in the future?

Appendix 5: Audience Responses to Booklets

Booklet 1

Comments from original blog post containing download:

> Somaya Langley on November 6, 2012 at 12:45 pm said:
> "It's relevant to my current work as a Networked Media Curator"
>
> Sarah Price on November 6, 2012 at 9:26 pm said:
> "Thankyou for promoting wider access to your research and for investing in the communities understanding of the use of social networking applications in community engagement activities".
>
> john jacobs on November 20, 2012 at 12:13 pm said:
> "Hi Pip,
> I've published it on Pool for you, best of luck with the further research.
> http://pool.abc.net.au/media/appropriate-approaches-online-community
> Thanks for creating this resource. The reading list is excellent, the style and "vibe" is great – the field needs more writers like you :~)
> Cheers John"
>
> Alex Grech on December 12, 2012 at 4:42 am said:
> "Hi Pip, I just finished my own PhD (on social media and power) and I'm a member of a Digital Culture community on Google+. I enjoyed reading this so I'm sharing it with the other people in the community –

most of us are involved in Rheingold U, Howard Rheingold's online learning group. Cheers, Alex"

Marcos on December 12, 2012 at 9:52 pm said:
"Nice work Pip! simple, concise and user-friendly".

Cristina Lopez on December 13, 2012 at 3:28 am said:
"Thanks for sharing this. I'm an educational technology consultant at the University of Minnesota and will find this useful for my work in faculty development".

LeeBogner on December 13, 2012 at 3:42 am said:
"Great ebook Pip! Important insight to my ongoing work in commercial and edu online communities. Thanks!"

Sherida Ryan on December 13, 2012 at 5:21 am said:
"I teach a graduate course on the Internet, Adult Education and Community Development. I would like to use the booklet as resource material for my class…its speaks to both adult education and community development. Great way to make your research accessible".

Ila on December 14, 2012 at 2:23 am said:
"I am a doctoral student conducting research on online communities".

Airi on December 19, 2012 at 4:44 pm said:

"Reading this in hopes it may be useful for thinking about my research & not-for-profit undertakings!"

Sharon Wheeler on December 20, 2012 at 9:02 am said:

"Thanks, Pip! I'm looking at online communities and how to build them with my journalism students …"

mark on January 14, 2013 at 3:08 pm said:

"Nice Booklet Pip, very informative and uncluttered – love it!"

Elizabeth on March 28, 2013 at 12:00 am said:

"Really useful – have recommended this to the Arts Management lecturers".

Comments that appeared on the ABC Pool post:

Guest said 2 days ago

"Hi Pip,

Thank you for sharing your work, I think it's a terrific way of starting the conversation and beginning the process of guidelines around online community building. I haven't seen anything like this, and it's definitely needed.

I liked the lay-out - it's physically easy to read and looks smashing. I work in ABC Open, and I think what I'd find really valuable would be links within your PDF to more info/detail where we'd like to access it. So

that it's succinct for people who want a quick overview, but which has a bit more meat for people who want it. Also, I'd find it handy to have links to real websites where great, inspiring things are happening. This could help people to think outside the box in terms of what they're doing in their own patch. Then, as part of your document, you could have it as a dynamic breathing thing, and build a forum into it so people can continue to share ideas and new things they've learned and come across. So it's like you build an online community around what it is you're doing! I'd love to be able to link from the guidelines to real life case studies rather than the hypertheticals. EG - examples of projects that are doing what you talk about really well, and also projects at the other end of the spectrum that have failed and where the arts workers are prepared to reflect on what they could have done differently.

I can see the potential for this being used as the framework for PD for project managers/community arts workers. To elevate this above just being another document in their inbox that their boss says they should read (but which perhaps they don't take the time to deeply reflect on), you could provide offshoots of further reading, discussion topics etc. This could even be done in the space of a staff meeting. EG – Everybody has to read the guide in advance and check out the links and real life case studies. Then during the meeting, they could split into small groups assigned to each 'point' and where they actually analyse and discuss the websites you've linked to and what works/doesn't work in their approach. Each group could then present back to the wider group, or else rotate from one point to the other, depending on time constraints. That

way, people really do develop critical/analytical skills around this area, which they will then be able to apply back to their own projects, in a more informed way.

Like the other commenter, I think it'd be worth talking about copyright in its own section. I also wonder whether it's worth including something on censorship, which could come into the area of ‘governance’. It sounds dramatic, but something which explores to what extent the project facilitators moderate comments or are completely hands-off. This is particularly relevant when they're working with marginalised groups like the GLBTIQ example you gave. Do they step in and stop the homophobic comments going through before they're read by their community? How to walk the line between being responsible versus controlling/paternalistic? Again - real life examples would be awesome here, with forums for people to be able to share their experiences/comments. That’d keep it dynamic and a living, breathing document.

Given that your target audience for this are community artists, managers and trainers, I think it could also be worth broaching the issue of project goals with online community building. This goes to the heart of the most challenging aspect of our jobs in this field - of managing process versus outcome. Arts workers and project managers need to be crystal clear before they even start the project, as to what the yardsticks of success really are. Is it to build a strong online community where people upload content and interact, that attracts a high amount of traffic to the site and lots of positive interactions? Or, is it to produce high quality media that

makes them and their site look good and professional? To produce high quality media, you usually need professionals to make it (which is therefore not a community arts project) OR you need a lot of time and good equipment for amateurs to be mentored intensively by community arts workers, to make it themselves. I've generally found that most of these projects don't have that kind of budget....but they still want it all! This kind of misunderstanding can lead to a lot of disappointment from stakeholders and stress amongst arts workers and participants.

You talked about modding - which is a great example of how low budget arts projects can produce stuff on beautiful platforms, without having to build a site from scratch. This got me thinking about your target audience for this paper, and I wonder whether it'd be worth perhaps tailoring the document a bit more to consider budgetary considerations as well. The arts workers I know would really appreciate any new ideas on this front and it goes to the heart of what we do – trying to get the most out of accessible media and technology as we possibly can! (Also could link to some of the pitfalls here too – some arts managers cut corners at the outset, eg – by not investing in good enough media equipment, or not doing adequate research into whether this platform will speak with this platform, and it can end up costing a lot of money later. (One arts organisation I worked for organised our media workshops at a youth centre because it was free and the computers were there. They didn't want to pay money to access a more professional space. We ended up needing to extend the project, miss the deadline and went way over budget because the computers had super slow internet, you couldn't save

things on there and they were full of viruses and glitches that led to participants losing hours of work inexplicably. Also led to people dropping out of the project etc.)
Congrats again on your work Pip, it's a really exciting and important guide and I'm so glad you're doing it.
-Suzi"

Guest said 8 hours ago
"Hi Pip! Nicely done :) Downloaded as I run the annual Australian Community Management conference swarm, I also teach a CM course (pillarsummit.com.au) and if that's not enough run a CM facebook group.. and a CM business. Ha! Well done on this effort, come along to swarm in sydney next year! Alison (@quiip)"

Guest said 11 hours ago
"Hi Pip! I think the guide is excellent. I run an online community (~12k members, with lots of face-to-face and online activity), and also work with nonprofit and public sector groups who are trying to develop communities online".

Guest said 2 days ago
"I am working in community theatre and performing arts and interested in building communities around particular projects using social and new media. The ethical issues are complex, as are issues of intellectual property and artists' rights in what is, to me, very new terrain. This

booklet will give me lots of food for thought".

bedpanner said 5 hours ago

"1 I am a healthcare professional so my slant would be a warning about the health impact of an emerging diagnosis of PROBLEMATIC INTERNET USE. People like me aren't critical of their own contributions, nor particularly interactive, they do it for the same reason people smoke or drink, because they are addicted to it.

2 The academic pitch is quite high, the language assumes a critical outlook and millions of people are making haul videos - filming themselves talking about stuff they purchased at the mall, posting photos of their dinner and transcribing conversation.

The book seems intended for readers rather than bloggers.

3 The word copyright appears nowhere in the paper and this seems to reflect the popular culture that copyright is somehow mythological. Software developers can take credit for the copyleft development creating historic precedents and I see an opportunity in your book to mention community software development. I take copyright seriously and generally avoid anything with a license as restrictive as the one you chose.

4 Thanks for your insight, an interesting read".

Masonik said10 hours ago

“Hi - Thanks for this document - I'm a highschool teacher, so the guidelines are interesting for me & my students. I'm just wondering if there might be a 7th chapter here dealing with Social Media. Most people contributing to Online Community Arts Projects also have things like twitter, tumblr, facebook or even their own blog etc - a connectivity between work you contribute to a Community Arts Project & your social media network, I think is really important. A simple "flow' between these, for me is an inportant factor. I wish for example within The Pool I could post my contributions to my social media, within The Pool & that the Pool 'Media Player' was visible within social media sites.... which maybe points to another chapter ... which is "Visibility" --- I can understand your point about being 'invisible' - but I'd say most would want the opposite - so therefore statistics are really important - why are you making an online Arts sites??? for visibility.... how do you measure who has seen your stuff - did they share your work on, so that others saw it. the nature of 'online' almost insists that your work is goinf to be 'taken' & put somewhere else or at the very least point to from the'outside' - I'd say you'd wan to measure this:) My final point - which is probably the least discussed - but really imporant, I think & that is funding.... without money going into the project in some way & recognising this - any arts project is a dead duck - & people's time is money.... I hope these thoughts help & add to the dialogue.

cheers

Baz

Sheila Pham said 11 hours ago

"Hi Pip, thanks for sharing - I only wish this booklet was available earlier :) Great that you were working with CuriousWorks - I'm a big fan of theirs and I've been talking to Shakthi over the past few months.

This booklet is very relevant to a project like Pool, although Pool is a sort of grass-roots project housed within the ABC rather than being a true grass-roots digital project. It's obviously important to ask critical questions before starting any project, digital or otherwise. It will stem a lot of problems further down the track and furthermore, it sets expectations from the beginning. I also think the question about lifespan is extremely important. Not all digital projects need to keep going, especially once they have served their purpose (or its reached its limit in terms of resourcing, for example).

The main feedback I have is about digital literacy required for this booklet. Reading this booklet I understand exactly what you're asking - but just wondering how someone with less digital literacy would find this booklet? The examples are helpful, but there's a lot of assumed knowledge - about hacking, AR, APIs etc. But perhaps you are targeting this at community artists who already have some level of knowledge and already working in this space?

In any case, I'm circulating this widely at the ABC and elsewhere, so hopefully you will receive feedback from a range of people!

Sheila, Pool editor"

Selected Twitter MTs:

@marika75 (date)

Considerations for nurturing online communities (good and applicable stuff!): popomo.com/research/blog/… (via @jeanburgess @shealo)

@niitamo (date)

@shealo Hi Pip, What program did you use for the layout of your booklet? I'd like to do some e-books for courses I'm teaching. Looks good.

@criticalsenses (date)

Appropriate Approaches to Online Community - Critical Guide: popomo.com/research/blog/… @shealo

@open_michigan (date)

#Guide by @shealo: Appropriate Approaches to #OnlineCommunities ow.ly/jqBaz #OpenLicenses #SocialNetworks #Reading

Targeted Emails (12.12.12):

Frank Panucci, Director, Communtity Partnerships, Australia Council

David Sudmalis, Manager, Programs and Arts and Education, Communtity Partnerships, Australia Council

Lucy Mendelssohn, Program Officer, Communtity Partnerships, Australia Council

Melina Scarcella, Program Officer, Communtity Partnerships, Australia Council

Thom Scire, Program Officer, Communtity Partnerships, Australia Council

John Petersen, Program Manager, Communtity Partnerships, Australia Council

Erin McVeigh, Section Coordinator, Communtity Partnerships, Australia Council

Janelle Bray, Administration Officer, Communtity Partnerships, Australia Council

Digby Webster, Assistant Administration Officer, Communtity Partnerships, Australia Council

Andrew Donovan, InterArts, Australia Council

Community Arts Partnership, Northern Ireland

Email Feedback:

Katie Hepworth:

"The points that I make are about the differences between my proposed project - and the aim of the online tools that you discussed. I'm not sure how helpful they'll be, since most of the issues that I raise aren't really relevant to the kinds of online community networks that you were talking about.

I downloaded the booklet as part of some research into the feasibility of setting up a web-based platform for migrants in detention and facing deportation. The aim was to set up the platform as a research tool, that would replace or complement other more traditional methods such as in-depth interviews, and allow individuals to participate in the development of the research process, by directly intervening in the website.

The idea of the platform was inspired by the facebook pages 'asylum seekers on Nauru', which has been an invaluable resource in finding out information about detention regimes on the island + more importantly

about hearing the direct experience of asylum seekers. This experience is often erased from the debate, with asylum seekers assumed to be victims. I was looking for different approaches to managing communities through online tools, but also how these online resources could be used as research tools.

The booklet posed a lot of interesting questions about how to maintain a community online, and the kinds of decisions that need to be made in establishing the platform, depending on the nature of the community to be maintained. However, given the booklet was aimed more at sustaining communities where the participants were (more or less) on equal footing, and their participation was relatively unproblematic, I found that it didn't address some of the major ethical, legal and practical issues that I was facing in looking at the platform as a research tool. Issues such as maintaining privacy for asylum seekers, how to manage the legal issues associated with them posting from detention (what would the implications be through deportation), and the practicalities of providing access to the platform while in detention and following deportation. Also, the websites that I had looked at were self-managed by asylum seekers - and are therefore more similar to the kinds of community pages/platforms that you discussed in the book. I still need to consider the ethical issues involved in explicitly setting something up as a research tool which is managed by a researcher with a specific purpose in mind. While this might get over some of the issues of how to sustain the network infrastructure, it doesn't address how to build trust amongst participants about how their data will be stored".

Email from Andrew McNicol UNSW via UnlikeUs list:

“Hi Pip!

Sorry I'm replying to this late - I'm cleaning out my email inbox today and I forgot about it.

Your thesis sounds like a great project and I look forward to reading future updates on your blog!

I have some constructive criticism about the content that I hope you find helpful. (Basically, I think this reply is a case of 'this booklet doesn't cover my own personal research interests so I should throw some comments out there'.) My own research looks at the social effects of the categorisation of individuals on social media services and the census. For example, when services such as Facebook prompt or require users to enter their gender/sex status, what effects does that have on the individuals using or considering using the service? And what wider social changes may come about when we, in some way, culturally absorb the categorisation and identity performance choices these services have imposed on us? It's a very interesting project but I won't go into too much detail here.

Because of my own focus, when reading through your booklet I recognise an important oversight: namely, there is no explicit discussion about the importance of designing communities to be safe, empowering spaces for their intended users.

The usability section focuses on user comfort, but only in terms of ease of use rather than trying to create a space that feels socially comfortable.

The invisibility section prompts designers to 'think about how the structures and dynamics of these various levels of network infrastructure might affect your project and your participants' which, although it is related to the creation of safe, empowering spaces, it doesn't mention this aspect explicitly. The governance section that discusses 'cultural appropriateness' is similar.

I realise this booklet is intended to be short and easy to read so there certainly are valid reasons for limiting the content. Still - and I openly recognise my bias here - I feel a short discussion about carefully considering design choices relating to user interaction (presentation and content of user profiles, the display and storage of communication and personal data, communicating with users about their rights and responsibilities, etc) and how it may affect the community would have been a valuable addition to a document that seeks to 'help practitioners develop appropriate Internet practices – network solutions that take the specific needs of individuals and communities in to consideration'.

I really do appreciate the work you put into the booklet. I think it's a great idea and I'm glad so many others appear to be sharing it around. I hope you find these comments helpful, even if you feel it's beyond the scope of the project =)”

Booklet 2

Direct feedback on blog post:

> Bob Mason on March 21, 2013 at 4:58 am said:
> "Useful, readable–I expect to use it in a course on social media".
>
> Rana on March 21, 2013 at 7:14 am said:
> "I'm curious about the possibilities".
>
> Julia Scott on March 21, 2013 at 7:46 am said:
> "I'm downloading it because it's your work generally, but also because I'm interested in how the Internet enables sharing of knowledge and ideas as well as the ways communities are being formed and disrupted by our use of digital technologies. I also support and appreciate efforts by academics to apply their research in practical contexts, so the world can benefit from their work and knowledge.
> Thanks Pip!"
>
> Amparo on March 21, 2013 at 9:25 am said:
> "I download your pdf because with the colleagues of my research team in the university complutense of madrid, we are interested in finding and knowing about forms of collaborative knowledge and innovative research methods. As the name of our web says, we are interested as well in ordinary life, practices and affects, so connexions between community

arts, hack culture and open source sound really inspiring”

Elaine Lally on March 21, 2013 at 9:49 am said:
“I’m researching online music collaborations on sites like Soundcloud and Kompoz.com, I was interested in seeing your theoretical model”.

Diana on March 21, 2013 at 1:20 pm said:
“I’m interested in free culture, software libre, and the collaborative knowledge movement. Based in Ecuador, just returned from a community meeting about software libre, and was impressed by the ways that folks are sharing knowledge and building community-based communication networks”.

Sonja on March 21, 2013 at 4:31 pm said:
“I’m downloading the manual because I can’t wait to see intersections with my own work on self-representation by individuals and communities in networked spaces – and hope to one day collaborate with you! How’s the thesis going BTW :)”

DeNel Rehberg Sedo on March 21, 2013 at 10:14 pm said:
“I’m going to consider using it for two graduate classes this summer: one in Communication Studies–Social Media–and the other in Education–Critical Digital Media Literacy. Thank you for making it available to us. If you’d like to interact with the students, please let me know!”

Lucy on March 21, 2013 at 10:52 pm said:

“Hi Pip,

I’m in the process of writing an essay on the practical implications of the digital revolution on a visual arts practice and thought your clever little booklet might help me to define my topic a little better. Xx”

Marcos Dias on March 22, 2013 at 12:28 am said:

“Hi Pip,

Another nice and neat little guide from you!. The content is easy to understand, non-technical and I love the ‘half-way’ page. It is a great way of alerting artists to important (and taken-for-granted) facts about social media (who owns it, what happens when things go wrong, etc.) and an important tool towards broadening the reach of PhD research projects”.

Pingback: » By the By Research Is

Pingback: Co-Creating Knowledge Online | Globalized Communication and Culture COMM1107

Marius on March 23, 2013 at 10:49 am said:

“Hi Pip, like these scenarios as a way to discuss the pragmatics and theories of co-creation on line. I’ve shared this with a class I run on new communication. Cheers, Marius”

Liezel on March 25, 2013 at 11:45 am said:

“This might help my research with regards to participatory art and outcome-based community projects…I’m interested in how technology is utilized during these processes”.

Antoine on March 27, 2013 at 5:31 am said:

“This is new terrain for me I am hoping this guide can help me get up to speed quickly”.

Jared Dahl Aldern on March 28, 2013 at 7:25 am said:

“I’d like to learn more about how networks of teachers can co-create curriculum online. I’m hoping to use some of your experiences in the arts as springboards for other sorts of educational work and knowledge creation”.

Tara Williams on March 28, 2013 at 8:14 am said:

“Keepin’ up with the Joneses! Intrigued by the possibilities…”

Ursula Skjonnemand on March 28, 2013 at 2:59 pm said:

“I coordinate a project called CitizenJ that aims to support citizen journalists to build skills and credibility. So I’m hoping this will include useful information for us and our contributors. You can visit the site and check out their work here http://citizenj.edgeqld.org.au/”

Selected Twitter MTs:

@tattinot (date)

@shealo have uploaded to the learning site for students of the UWS Masters of Convergent Media students who work on practice based projects

@simonlindgren (date)

Free internet field guide on co-creation of knowledge popomo.com/research/blog/…

@ElizabHk (date)

Cool! RT @shealo FREE PDF: Co-Creating Knowledge Online ... theory snapshots for culture makers bit.ly/WE2seG #communityarts

@thegestalter (date)

@hellorobkey found this just now from @shealo via @ReFoundOnline via @artistsmakers You might like it. popomo.com/research/blog/…

@hellorobkey (date)

@TheGestalter @shealo @ReFoundOnline @artistsmakers Great thanks Kirsten, I will take a look :)

Targeted Emails:

- Sent personal emails targeting Contact Manchester, Frank from Australia Council, Alison and Graham Pitts, Artshub
- Artshub has asked for an opinion piece
- PlaceStories: posted in “community groups”
- Emailed to ANAT (asked to circulate it among their networks)

• Emailed to ICE (asked to circulate it among their networks)

• Emailed to Art Files (ICE) (asked to circulate it among their networks)

• Emailed: Bridget Jones, Director, Research and Strategic Analysis Australia Council

• Emailed Paula and Lisa and Paul from ShopFront UTS

Email Feedback:

Lisa Andersen (UTS/Shopfront):

"Thanks Pip - it a great intro tool to get practitioners thinking about incorporating global networks into their local work.

I've forwarded on to colleagues at UTS centre for Creative Practice and Cultural Economy for their students and will post to the culturemap.org.au sites.

Congratulations on your achievement and that you've made the commitment to develop tools for the sector from your research - I know what extra work that is!

Best wishes,

Lisa"

Email response from Artshub:

"Hi Pip,

Thanks for your email. Would you be interested in writing an opinion piece for artsHub. We unfortunately can't pay at this stage, but it could be great to get your opinion on the value of this type of connection for artists. We can also help promote the book via a link at the bottom of the

piece. Let me know what you think.

Kind regards.

Sarah Adams

Deputy Editor, ArtsHub”

Email response from Ilaria Vanni (doing research project with ICE):

“Dear Pip

Thank you so much for your email and link, it is very exciting! I will circulate it to my networks, which might overlap with yours, and also I might use it to design new subjects in teaching: thank you for the excellent resource!

Dr Ilaria Vanni

Head of Academic Group ~ Cultural Studies

Faculty of Arts and Social Sciences

University of Technology Sydney”

Email response via Fibreculture listserv:

“thanks for that Pip -- I'm exploring the effects of IT on education today with my students in a "Meaning of Information Technology" course, and this adds another POV to the discussion…

Cheers,

John

john.c.hopkins@colorado.edu”

Appendix 6: Collaborative Agreement

BETWEEN

Pip Shea (Queensland University of Technology),

(hereinafter "researcher")

AND

CuriousWorks,

(hereinafter "host organisation")

REGARDING

PhD Research inquiry

- - -

SECTION 1. BACKGROUND

This agreement is for the implementation of a doctoral research and development project intended to investigate how community arts and media practitioners work with community wifi networks (CuriousWorks) in community cultural development (CCD) projects. The researcher will conduct the inquiry in partnership with the host organisation. They will work together in a process of action and reflection, to engage participants in projects that motivate, inform and provide tools to design, build and sustain community wifi networks (CuriousWorks). Emphasis will be placed on developing community arts and media approaches to building collective community capacity. The research will address the following questions:

> What are the technological and cultural infrastructures and dynamics of community wifi networks?

What forms of collective creative practice and digital literacy might emerge from these CCD projects?

What are the relationships among the various agents and stakeholders in these CCD projects, including the researcher?

SECTION 2. STATEMENT OF PROJECT OBJECTIVE

It can be said that CCD practice aims to provide opportunities for informal, vocational training at a grassroots level. In the case of media arts programs, participants often learn computer-based video or audio production skills that can potentially have socioeconomic benefits. This inquiry builds on this premise through an investigation of how CCD practitioners might use CuriousWorks to nurture the skills and competencies of participants.

This study is also concerned with how a critical pedagogy approach to developing CuriousWorks could enable community engagement and community cultural development; and whether informal approaches to learning inherent in CCD practice leads to critical consciousness.

The research will contribute to an understanding of CuriousWorks as sites for digital literacy, potentially leading to improved practices of situated creativity. This original contribution to knowledge will be utilised in community-led arts and media practice by artists, designers, community managers, media workers and policy developers.

SECTION 3. METHODOLOGY

The primary methodological approach is ethnographic participant observation; however, as the study will attempt to improve the practices of individuals and organisations using CuriousWorks for social and creative projects, participatory action research (PAR) methods will also be used. PAR is a variation of traditional ethnography that involves iterative, collaborative processes; which will be shaped and informed by the direct involvement of participants. The project will also draw on Actor-network theory (ANT) to enable approaches to understanding the assemblages of CuriousWorks, and how agency emerges within and between actors.

The researcher's PAR methods will draw on participatory art practice - an appropriate, effective tool of qualitative research. She will encourage the voices and perspectives of participants through image-based communication such as drawing and mapping. One example of a mapping technique the researcher will employ is user-led cartography.

Initial research has ascertained that issues such as power relations, gender, language, literacy, representation, participation, working relationships, economic status and accountability, are major considerations. This is supported by Abdelaal's (2009) suggestion that the greatest challenge facing CuriousWorks is not technical but social, meaning community relations become a central issue for the implementation and sustainability of CuriousWorks.

Guiding principles and theories related to 'the commons' will comprise a major conceptual framework, as the commons offers an "economical and constructive" way to reimagine wireless in Australia (Goggin 2007). Literature dealing with

notions of the commons will help frame the research to facilitate the aim of contributing recommendations based on alternative visions of community-based wireless networks.

SECTION 4. FUNDING & COSTS

Both parties will fund their respective projects. The host organisation will not be liable for any costs pertaining to the research project. Similarly, the researcher and the Queensland University of Technology will not be responsible for funding the host organisation's community development projects.

SECTION 7. ADDITIONAL AGREEMENTS

Documents such as memoranda of understanding (MOU) and release forms will be used to outline the nature of research activities, the perceived outcomes and the terms of use of research findings.

SECTION 8. EXTERNAL STAKEHOLDERS

External stakeholders of the project include the people and organisations associated with the host organisation including employees and funding bodies; community participants; non-participant community members; government and non-government agencies; education institutions; and telecommunications companies. The researcher will encourage the establishment of steering committees for each research activity to ensure a participatory process that respects stakeholder representation.

SECTION 9. ETHICAL CLEARANCES

The researcher is in the process of applying for the appropriate QUT ethical clearances to undertake the research. Throughout the study participants will have

ownership of their own content, and ethical frameworks will be strictly adhered to.

SECTION 10. CODE OF CONDUCT FOR RESEARCH

The researcher will adhere to the QUT Code of Conduct for Research at all times. The terms of this code can be found here:

http://www.mopp.qut.edu.au/D/D_02_06.jsp

SECTION 11. LIABILITY

Should the collaboration end due to unforeseen circumstances; neither party will be liable for damages or compensation.

List of Figures